

APRIL 1992

EXECUTIVE

Inter Age

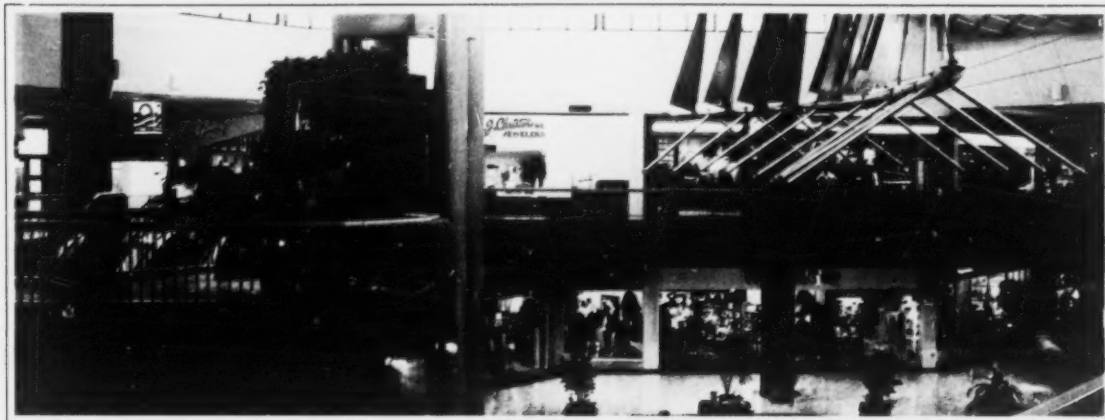
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**LOVE AT
WALGREENS**
Mary and Zachary Schwartz

SENIOR CLASS
\$7.00 A YEAR (US)

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Take it from Maxine Clark

**vice president merchandise,
Venture Stores.**

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Or Listen to Byron Davis

vice president sales, Fisher Price.

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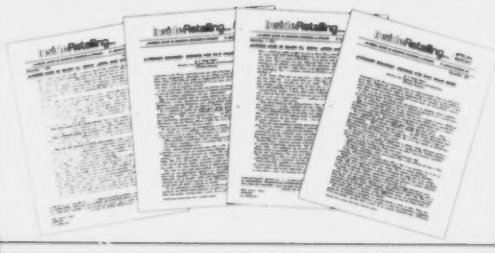
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RETAIL TECHNOLOGY

PARTNERING

Mappes points out that the major long distance interexchange carriers have all converted their networks to digital transport and switching. The local telephone companies, he admits, have not quite kept pace.

"But digital technology is available just about anywhere, especially the major metropolitan areas," he says. "It will be the platform for future service offerings from the telephone companies."

The digital offerings available from phone companies today are based on two distinct groups of standards, Mappes says. The simplest in structure is called the Basic Rate Interface, or BRI, which features two 64KB bearer (voice or data) channels and one 16KB signaling channel.

The Primary Rate Interface, or PRI, on the other hand, packages 23 bearer channels along with one signaling channel. All channels, including the signaling channel, are 64KB.

Mappes notes that retail store communications today primarily serve the voice needs of the store. "A typical store may have five to 20 access lines for voice calls, and one to two lines for data."

"The goal of our test was to find a way to leverage the local access lines, which account for the bulk of communications costs, with ISDN PRI. We think we have succeeded."

In mid-1991, he says, Penney teamed with Southwestern Bell, MCI, Northern Telecom (a manufacturer of ISDN switches), and Teleos (a provider of ISDN-compatible customer-premise equipment) in an effort to test the concepts of ISDN. The team set up a lab environment at Penney's Dallas headquarters to simulate a typical store.

A diagram of the test configuration is shown on page 43. In the simulated store, a PBX with 50 active telephones was connected to a Teleos access server. The server was connected to a token ring LAN with a PC for testing purposes. The server was the vehicle to signal the Southwestern Bell ISDN switch as to how much capacity was needed for an application.

At the Southwestern Bell local office, the Northern Telecom DMS 100 reacted to the signals, directing calls either to local destinations or to MCI. MCI directed calls either to their VNET network or the J.C. Penney data center.

"Given this test configuration, we were able to simulate a variety of real-world situations," Mappes says.

"From the PC in the simulated store, we would activate multiple applications, requesting the Teleos box to set up calls of anywhere from one to 23 channels."

"For instance, we would request a single 64KB channel for electronic mail. Leaving that active, we would request six channels and activate a multi-megabyte file transfer from the host. Then we might open a third session to the server and perform queries."

Although the testing "proved the viability and reliability of ISDN tech-

nology," Mappes says, all the pieces to make ISDN a commercial success are not yet in place.

Local phone companies have shown little interest in promoting ISDN, he says, and findings from a Penney study show that initial costs of ISDN could average more than 150% above what is now paid for conventional voice and data services.

Mappes suggests that retailers should lobby telephone companies hard for cost-effective pricing, focusing on local-access costs. ■

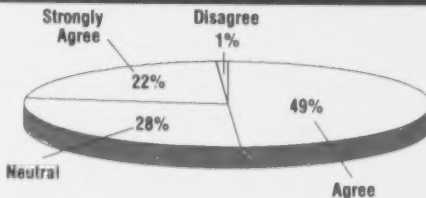
SMOOTHER RELATIONSHIPS TECHNOLOGY MAKES PARTNERING EASIER

The majority of top U.S. retailers believe that strategic vendor partnering—cooperative working relationships between retailers and vendors—has become a significant trend in the retail industry, and is likely to become even more prevalent.

Technology, they say, is clearly the dominant force that is making this trend possible.

That's the conclusion of a recent

Strategic Vendor Partnering: A Top Priority



Most executives agree: Strategic Vendor Partnering is a top priority over the next three years. Out of all the respondents, only one disagreed.

survey sponsored by the National Retail Foundation and Andersen Consulting. The survey found that 80% of retailers have started some type of program which calls for strategic vendor partnering, and that they are using this program to work with key vendors to streamline their trading relationships.

Retailers who responded to the survey said they are looking to technologies such as Electronic Data Interchange (EDI) and UPC barcode marking to improve operations and reduce costs. They believe these tools give them better communication with vendors and more control over inventory levels.

The survey was conducted in September 1991, during the NRF's RISCON show in Chicago. Participants represented companies ranging in size from less than \$100 million to more than \$1 billion in annual revenues.

Steven J. Johnson, Andersen's managing partner for retail industry practice, says the overwhelming interest in strategic vendor partnering signals a definite shift in business philosophy throughout the retail industry.

Not long ago, retailers would have likely called their relationship with vendors 'arms length' at best and adversarial at worst," he says. "Today, retailers are realizing that more vendor involvement in their inventory operations can make both their vendors' businesses

and their own more efficient."

One way in which vendor partnering pays off, Johnson says, is in inventory replenishment decisions. When retailers share their sales data, vendors can develop forecasts, production plans and schedules—providing retailers with closer approximations of expected sales.

By keeping inventory levels closer to anticipated sales levels, stores can avoid having to discount excess inventory at the end of a season, Johnson says.

Richard T. Faul, vp of information systems, NRF, points out that 30% of the retailers who participated in the survey have well-developed informa-

FINANCE

REVENUES

	4th qtr. (000 omitted)	% change	YTD (000 omitted)	% change
CATALOG STORE CHAINS				
J.C. Penney*	5,653,000	+ 2.3	17,295,000	- 0.7
Sears, Roebuck & Co.	9,496,500	+ 0.6	31,432,900	- 1.7
Williams-Sonoma ³	68,838	+ 7.8	196,084	+ 10.3
DEPARTMENT STORE CHAINS				
Dillard	1,321,584	+ 8.8	4,036,392	+ 12.0
May	3,285,000	+ 3.3	10,402,000	+ 5.5
Mercantile*	795,733	+ 1.1	2,442,425	+ 3.2
Neiman Marcus Group ²	541,210	+ 0.3	975,363	+ 1.0
Nordstrom	978,056	+ 8.4	3,179,820	+ 9.9
DISCOUNT STORES				
Caldor*	636,821	+ 5.1	1,867,551	+ 5.7
Consolidated	246,284	+ 17.7	752,581	+ 13.7
Dayton Hudson*	5,249,000	+ 7.9	16,115,000	+ 9.3
Dollar General	243,063	+ 20.4	754,426	+ 15.5
Family Dollar ¹	263,899	+ 17.4	263,899	+ 17.4
Fred Meyer ³	604,031	+ 11.5	1,986,751	+ 9.9
Kmart	10,560,000	+ 8.3	34,580,000	+ 7.8
Pamida Holdings*	164,612	- 15.8	636,364	- 4.2
Service Merchandise	1,387,811	- 1.0	3,399,752	- 1.0
Shopko ²	397,383	+ 2.9	1,193,321	+ 5.8
Tuesday Morning	53,655	+ 15.0	123,356	+ 14.8
Value City ²	204,500	+ 14.0	363,300	+ 16.9
Venture	521,934	+ 8.9	1,522,444	+ 7.2
Wal-Mart	13,638,860	+ 31.7	43,886,902	+ 34.6

SHOE/SPECIALTY CHAINS

J. Baker	137,476	+ 43.9	493,542	+ 17.1
Edison Bros.	440,700	+ 4.4	1,385,300	+ 11.1
Genesco*	125,327	- 4.0	471,766	- 1.0
Melville	3,254,719	+ 5.1	9,886,183	+ 13.8
Woolworth*	3,136,000	+ 2.3	9,914,000	+ 1.3

APPAREL CHAINS

Ann Taylor*	111,491	+ 3.0	437,711	+ 6.6
Banker's Note ³	5,438	- 53.1	20,075	- 46.6
Charming Shoppes	295,606	+ 15.0	1,020,656	+ 15.2
Deb Shops	70,485	+ 2.9	220,337	+ 3.8
Designs	52,485	+ 29.6	150,820	+ 24.9
The Gap	803,485	+ 28.6	2,518,893	+ 30.3
Goody's Family Clothing	118,811	+ 30.2	361,742	+ 32.4
Paul Harris*	58,052	- 19.1	197,216	- 14.5
The Limited	2,056,139	+ 17.9	6,149,218	+ 17.0
Merry-Go-Round	250,048	+ 13.3	761,163	+ 21.2
Wet Seal ³	33,351	+ 9.5	84,644	+ 7.2

OFF-PRICE APPAREL

Burlington Coat Factory ²	20,683	+ 8.2	591,793	+ 7.5
Clothestime	71,007	+ 25.4	258,962	+ 23.9
Dress Barn ²	83,182	+ 8.3	170,987	+ 10.0
One Price Clothing*	40,436	+ 36.6	130,213	+ 17.5
Syms*	94,555	- 1.2	317,500	+ 1.0
TJX†	799,662	+ 12.0	2,757,715	+ 12.7

WAREHOUSE WHOLESALE CLUBS

Costco ¹	1,402,185	+ 27.3	1,402,185	+ 27.3
Office Depot*	341,048	+ 31.2	1,300,847	+ 44.0
Price ¹	2,518,042	+ 13.8	2,518,042	+ 13.8
Staples*	186,210	+ 102.7	547,080	+ 83.1
Waban	736,549	+ 16.1	2,783,585	+ 15.5
Warehouse Club ¹	62,293	- 11.3	62,293	- 11.3

EARNINGS

	4th qtr. (000 omitted)	% change	YTD (000 omitted)	% change
CATALOG STORE CHAINS				
J.C. Penney	301,000	+ 46.1	528,000	- 8.5
Sears, Roebuck & Co.	289,100	+ 202.4	486,300	+ 88.9
Williams-Sonoma ³	(1,559)	NA	(1,810)	NA
DEPARTMENT STORE CHAINS				
Dillard	93,312	+ 1.1	206,157	+ 12.8
May	266,000	+ 5.6	515,000	+ 3.0
Mercantile*	42,173	- 7.5	119,539	- 0.5
Neiman Marcus Group ²	11,399	- 21.0	19,660	- 20.4
Nordstrom	40,859	- 11.7	135,815	+ 17.3
DISCOUNT STORES				
Caldor*	28,388	+ 13.7	5,900	+ 38.3
Consolidated	16,924	+ 142.0	20,098	+ 342.2
Dayton Hudson*	192,000	- 18.3	301,000	- 26.6
Dollar General	12,292	+ 37.9	21,052	+ 47.1
Family Dollar ¹	11,606	+ 49.2	11,606	+ 49.2
Fred Meyer ³	5,511	+ 70.1	25,069	+ 39.2
Kmart	479,000	+ 19.2	859,000	+ 13.6
Pamida Holdings*	1,614	NA	545	- 90.4
Service Merchandise	88,670	+ 7.7	76,080	+ 25.3
Shopko ²	14,334	+ 1.0	28,452	+ 16.9
Tuesday Morning	6,320	+ 13.4	5,367	+ 13.2
Value City ²	14,100	+ 11.9	21,000	+ 33.8
Venture	28,441	+ 7.9	41,542	+ 20.4
Wal-Mart	602,430	+ 25.0	1,608,476	+ 24.6

SHOE/SPECIALTY CHAINS

J. Baker	2,475	+ 2,213.1	8,024	+ 8.6
Edison Bros.	28,900	- 1.7	60,800	+ 3.1
Genesco*	1,473	- 32.0	461	- 64.0
Melville	233,638	- 0.5	346,681	- 10.0
Woolworth*	(128,000)	NA	(53,000)	NA

APPAREL CHAINS

Ann Taylor*	(5,437)	NA	1,024	- 7.4
Banker's Note	(1,111)	NA	(3,420)	NA
Charming Shoppes	19,695	+ 35.5	58,302	+ 44.5
Deb Shops	4,977	- 31.7	8,594	- 36.7
Designs	3,033	+ 62.2	4,784	+ 128.2
The Gap	83,942	+ 48.6	229,873	+ 59.1
Goody's Family Clothing	5,259	+ 108.1	10,882	+ 221.4
Paul Harris*	3,949	NA	(3,357)	NA
The Limited	200,345	+ 16.4	403,302	+ 1.2
Merry-Go-Round	(2,507)	NA	22,704	- 39.4
Wet Seal ³	1,207	- 54.1	2,951	- 51.0

OFF-PRICE APPAREL

Burlington Coat Factory ²	34,275	+ 28.4	30,314	+ 33.3
Clothestime	1,357	+ 212.6	5,469	+ 6,911.5
Dress Barn ²	1,706	- 9.1	5,650	- 5.2
One Price Clothing*	2,276	+ 50.4	4,487	+ 1.4
Syms*	5,226	+ 13.0	14,261	+ 6.4
TJX†	14,034	- 8.0	70,114	- 5.4

WAREHOUSE WHOLESALE CLUBS

Costco ¹	20,451	+ 48.8	20,451	+ 48.8
Office Depot*	6,730	+ 101.6	14,377	+ 25.2
Price ¹	50,335	+ 7.0	50,335	+ 7.0
Staples*	5,930	+ 149.7	7,938	+ 39.1
Waban	10,608	+ 213.4	30,009	+ 63.0
Warehouse Club ¹	662	+ 43.9	662	+ 43.9

N/A - not applicable because of loss in either current or comparable period
 N/C - no change
 *before extraordinary items or changes in accounting principles
 †continuing operations only

¹first quarter figures
²second quarter figures
³third quarter figures
⁴fourth quarter figures
 Source: Company reports

FINANCE

REVENUES

	4th qtr. (000 omitted)	% change	YTD (000 omitted)	% change
HARD LINES CHAINS				
Best Buy ^{3*}	230,573	+ 35.0	589,763	+ 31.3
Blockbuster Entertainment	251,375	+ 40.2	868,003	+ 37.2
Circuit City ^{3*}	694,031	+ 18.6	1,886,907	+ 16.1
Fabri-Centers of America	158,530	+ 18.8	468,904	+ 21.6
Good Guys ¹	155,013	+ 24.5	155,013	+ 24.5
Hancock Fabrics [*]	94,853	- 9.2	388,001	+ 0.3
Highland ^{3*}	115,048	- 40.4	420,759	- 26.8
House of Fabrics	153,299	+ 32.9	493,062	+ 25.3
Lionel ^{3*}	56,991	- 22.2	148,648	- 28.8
Oshman's ^{3*}	63,827	- 7.3	202,102	- 8.7
Pier 1 Imports ^{3*}	158,435	+ 8.7	552,480	+ 27.4
Tandy ^{2*}	1,467,167	- 1.1	2,519,149	- 1.8
Tiffany [*]	149,028	+ 5.0	491,906	+ 7.9
Toys "R" Us	2,860,702	+ 12.2	6,124,209	+ 11.1

SUPERMARKETS

Albertsons	2,198,666	+ 4.0	8,680,467	+ 5.6
American [*]	5,216,606	- 8.6	20,822,956	- 6.0
A&P ²	2,607,667	- 0.1	8,851,047	+ 2.7
Bruno's ²	723,537	+ 1.4	1,339,488	+ 3.0
Delchamps ²	234,250	- 3.0	468,094	- 5.3
Food Lion	2,022,692	+ 13.0	6,438,507	+ 15.3
Hannaford Bros.	505,878	+ 16.6	2,007,960	+ 19.0
Ingles Markets	260,061	- 0.2	1,044,452	+ 3.7
Kroger [*]	5,128,649	+ 2.9	21,350,530	+ 5.4
Marsh ³	267,906	+ 3.9	879,972	+ 3.9
Penn Traffic ³	672,108	+ 1.1	2,025,273	- 2.6
Quality Food	126,755	+ 11.7	395,151	+ 13.7
Seaway Food Town ¹	135,260	- 0.7	135,260	- 0.7
Smith's Food & Drug	593,482	+ 11.5	2,217,437	+ 9.2
Stop & Shop [*]	1,321,107	- 5.6	5,009,581	+ 0.4
Vons [*]	1,239,600	- 1.7	5,350,200	+ 0.3
Weis Markets	333,259	+ 1.5	1,294,332	+ 1.8
Winn-Dixie ²	3,200,000	+ 2.6	5,500,000	+ 2.4

CONVENIENCE STORES

Casey's General Store ³	141,300	- 2.5	462,100	+ 4.2
Circle K ^{2*}	735,427	- 21.2	1,495,369	- 17.8
Dairy Mart ³	147,608	- 13.1	439,496	- 1.6
National Convenience ^{2*}	240,851	- 14.9	507,641	- 11.8
Southland ³	2,150,332	- 4.7	6,162,897	- 2.9
Uni-Marts ¹	71,816	+ 2.5	71,816	+ 2.5

DRUG STORES

Arbor Drug ²	124,354	+ 15.9	232,238	+ 16.0
Big B	139,966	+ 2.7	487,890	+ 5.2
Drug Emporium ³	177,828	+ 16.0	541,482	+ 22.6
Genovese ²	116,204	+ 2.7	447,159	+ 3.5
Longs	648,513	- 4.8	2,365,916	+ 1.4
Perry ¹	175,454	+ 6.1	175,454	+ 6.1
Revco ^{3*}	522,886	+ 11.9	1,425,651	+ 10.2
Rite Aid ³	929,828	+ 8.3	2,737,900	+ 8.9
Walgreen ¹	1,708,731	+ 10.9	1,708,731	+ 10.9

HOME CENTERS

Grossman	179,518	- 2.3	806,636	- 0.7
Hechinger	360,970	+ 16.5	1,615,440	+ 15.6
Home Depot	1,298,715	+ 28.9	5,136,674	+ 34.6
Lowe's	709,613	+ 21.1	3,056,247	+ 7.9
Wolohan Lumber	69,920	+ 3.2	303,715	+ 2.8

NON-STORE RETAILERS

Fingerhut	498,741	+ 3.0	1,428,428	+ 14.5
Home Shopping Network ^{1*}	291,800	NC	291,800	NC
Lands' End	270,915	+ 18.1	682,863	+ 13.1
Lillian Vernon ³	66,235	+ 16.1	116,963	+ 3.9
QVC Network [*]	281,660	+ 12.6	921,804	+ 18.8
Spiegel	652,896	- 8.1	1,733,521	- 2.9

EARNINGS

	4th qtr. (000 omitted)	% change	YTD (000 omitted)	% change
HARD LINES CHAINS				
Best Buy ^{3*}	2,321	+ 77.6	4,493	+ 384.2
Blockbuster Entertainment	29,029	+ 37.0	93,681	+ 36.5
Circuit City ^{3*}	8,799	+ 247.6	34,185	+ 14.0
Fabri-Centers of America	11,957	+ 36.0	17,513	+ 56.0
Good Guys ¹	4,584	- 7.5	4,584	- 7.5
Hancock Fabrics [*]	4,903	- 42.1	22,964	- 18.3
Highland ^{3*}	(3,531)	NA	(20,539)	NA
House of Fabrics	8,346	+ 29.3	19,691	+ 42.4
Lionel ^{3*}	(9,141)	NA	(41,372)	NA
Oshman's ^{3*}	(3,286)	NA	(6,316)	NA
Pier 1 Imports ^{3*}	1,215	NA	18,269	+ 112.0
Tandy ^{2*}	78,810	- 20.4	120,643	- 19.8
Tiffany [*]	12,098	- 19.7	31,805	- 13.2
Toys "R" Us	261,582	+ 10.1	339,529	+ 4.2

SUPERMARKETS

Albertsons	80,933	+ 9.5	257,794	+ 10.3
American [*]	58,888	- 31.6	240,168	+ 31.7
A&P ²	3,916	- 87.8	54,597	- 54.3
Bruno's ²	17,897	- 3.4	30,708	- 9.5
Delchamps ²	186	- 94.2	626	- 88.7
Food Lion	60,761	+ 12.5	205,171	+ 18.9
Hannaford Bros.	10,713	+ 23.0	43,350	+ 2.7
Ingles Markets	3,281	- 7.7	10,745	+ 7.0
Kroger [*]	41,416	- 23.4	100,693	+ 38.5
Marsh ³	472	- 86.4	7,674	- 29.6
Penn Traffic ³	(2,962)	NA	(10,529)	NA
Quality Food	6,785	+ 28.0	20,647	+ 30.0
Seaway Food Town ¹	885	+ 1,743.8	885	+ 1,743.8
Smith's Food & Drug	11,619	+ 28.8	45,097	+ 31.4
Stop & Shop [*]	31,100	+ 27.5	32,400	+ 1,372.7
Vons [*]	15,000	- 49.5	83,100	+ 1.1
Weis Markets	22,503	- 10.1	80,577	- 7.1
Winn-Dixie ²	53,800	+ 9.6	80,500	+ 9.5

CONVENIENCE STORES

Casey's General Store ³	2,700	+ 8.0	10,200	+ 27.5
Circle K ^{2*}	9,108	NA	15,493	NA
Dairy Mart ³	1,616	+ 7.3	3,654	+ 1.1
National Convenience ^{2*}	(9,008)	NA	(12,113)	NA
Southland ³	5,837	NA	(40,151)	NA
Uni-Marts ¹	897	- 6.1	897	- 6.1

DRUG STORES

Arbor Drug ²	5,101	+ 23.5	8,410	+ 23.8
Big B	3,263	+ 32.9	6,542	NA
Drug Emporium ³	637	- 54.4	(1,095)	NA
Genovese ²	3,287	+ 22.6	7,273	+ 31.9
Longs	15,615	- 9.2	55,379	- 7.1
Perry ¹	2,549	+ 74.8	2,549	+ 74.8
Revco ^{3*}	13,753	NA	501	NA
Rite Aid ³	25,326	+ 17.4	79,322	+ 16.1
Walgreen ¹	35,449	+ 10.3	35,449	+ 10.3

HOME CENTERS

Grossman	(1,376)	NA	(6,496)	NA
Hechinger	(1,500)	NA	26,055	+ 12.0
Home Depot	67,649	+ 63.1	249,150	+ 52.5
Lowe's	(43,265)	NA	6,487	- 90.9
Wolohan Lumber	1,761	- 36.3	9,325	- 21.1

NON-STORE RETAILERS

Fingerhut	26,958	+ 13.5	53,558	+ 12.2
Home Shopping Network ^{1*}	13,100	+ 9.2	13,100	+ 9.2
Lands' End	20,364	+ 35.7	28,732	+ 94.9
Lillian Vernon ³	7,649	+ 31.0	6,271	- 16.2
QVC Network [*]	9,895	+ 13.8	21,733	NA
Spiegel	12,963	- 64.0	16,921	- 72.5

NA - not applicable because of loss in either current or comparable period

NC - no change

*before extraordinary items or changes in accounting principles

†continuing operations only

¹first quarter figures

²second quarter figures

³third quarter figures

⁴fourth quarter figures

Source: Company reports

RETAIL SALES JUMP AGAIN IN FEBRUARY

STRONG PERFORMANCE RAISES RECOVERY HOPES

Is the long-awaited economic recovery on the way? Many analysts are ready to conclude that it is, based on February's robust retail sales results, which followed on the heels of a strong January performance.

Comparable industry sales posted a 10% year-to-year increase in February, which exceeded January's 9% pace and was the first double-digit industry gain since March 1985, according to Michael P. Niemira, vp of Mitsubishi Bank's New York-based economic research department.

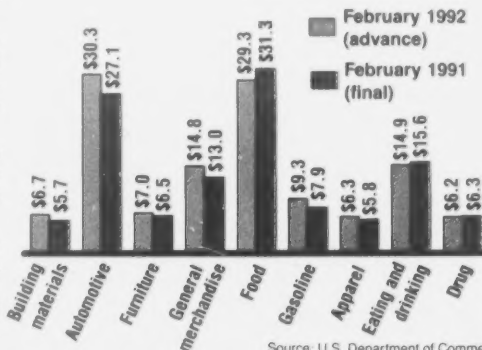
"To be sure, the calendar quirk of the 1992 leap year added to the performance for many retailers," Niemira says. "On the other hand, Sears posted an 8.9% comparable store increase that was not impacted by the extra selling day, a Saturday."

Sears' performance was the best for the retailer in some time, leading the company's chairman, Edward Brennan, to comment, "Something good is going on out there in retail."

Brennan noted that many Sears stores showed a turnaround in the home goods category, which has long been depressed.

FEBRUARY SALES

(Seasonally adjusted, figures in billions)



Source: U.S. Department of Commerce

CHAIN PERFORMANCE

Company	February '92 sales (000)	% change	% change comp. stores	YTD sales (000)	% change YTD	% change YTD comp. stores
Wal-Mart	\$3,610,000	+ 34.0	+ 20.0	\$3,610,000	+ 34.0	+ 20.0
Kmart	2,320,000	+ 9.9	+ 4.3	2,320,000	+ 9.9	+ 4.3
Sears	2,190,000	+ 3.3	+ 8.9	2,190,000	+ 3.3	+ 8.9
Penney	1,014,000	+ 9.0	+ 8.6	1,014,000	+ 9.0	+ 8.6
Dayton Hudson	1,020,000	+ 12.9	+ 6.0	1,020,000	+ 12.9	+ 6.0
May	629,300	+ 8.4	+ 4.0	629,300	+ 8.4	+ 4.0
Melville ¹	667,900	+ 5.6	+ 4.0	667,900	+ 5.6	+ 4.0
Walgreen ⁵	605,750	+ 14.1	+ 10.4	1,200,980	+ 12.8	+ 8.0
Federated	465,300	+ 3.8	+ 10.2	465,300	+ 3.8	+ 10.2
Woolworth	349,000	- 0.7	+ 3.1	349,000	- 0.7	+ 3.1
The Limited	410,000	+ 14.0	+ 5.0	410,000	+ 14.0	+ 5.0
Circuit City ²	205,200	+ 35.0	+ 20.0	2,790,000	+ 18.0	+ 1.0
The Gap	146,000	+ 23.0	+ 7.0	146,000	+ 23.0	+ 7.0
Mercantile	153,300	+ 14.3	+ 0.1	153,300	+ 14.3	+ 0.1
Neiman-Marcus Group ³	123,100	+ 10.4	+ 5.7	1,098,400	+ 2.0	- 2.2
Venture Stores	94,100	+ 15.3	+ 10.9	94,100	+ 15.3	+ 10.9
Edison Bros.	91,600	+ 11.7	N/R	91,600	+ 11.7	N/R
Rose's	108,933	+ 6.0	+ 6.6	108,933	+ 6.0	+ 6.6
Jamesway	44,665	+ 10.0	+ 10.0	44,665	+ 10.0	+ 10.0
Charming Shoppes	69,200	+ 22.0	+ 12.0	69,200	+ 22.0	+ 12.0
Ross	53,000	+ 2.0	- 6.0	53,000	+ 2.0	- 6.0
Value City ³	36,500	+ 18.2	+ 13.0	399,800	+ 17.0	+ 11.3
Dollar General	49,500	+ 28.2	+ 23.3	49,500	+ 28.2	+ 23.3
Best Buy ⁴	79,000	+ 76.0	+ 35.0	929,000	+ 40.0	+ 14.0
Gottschalks	17,553	N/C	- 4.0	17,553	N/C	- 4.0

¹fiscal year ends Dec. 31 ²fiscal year ends Feb. 28 ³fiscal year ends July 31 ⁴fiscal year ends Mar. 31 ⁵fiscal year ends Aug. 31 N/R - not reported N/C - no change

Source: Company reports

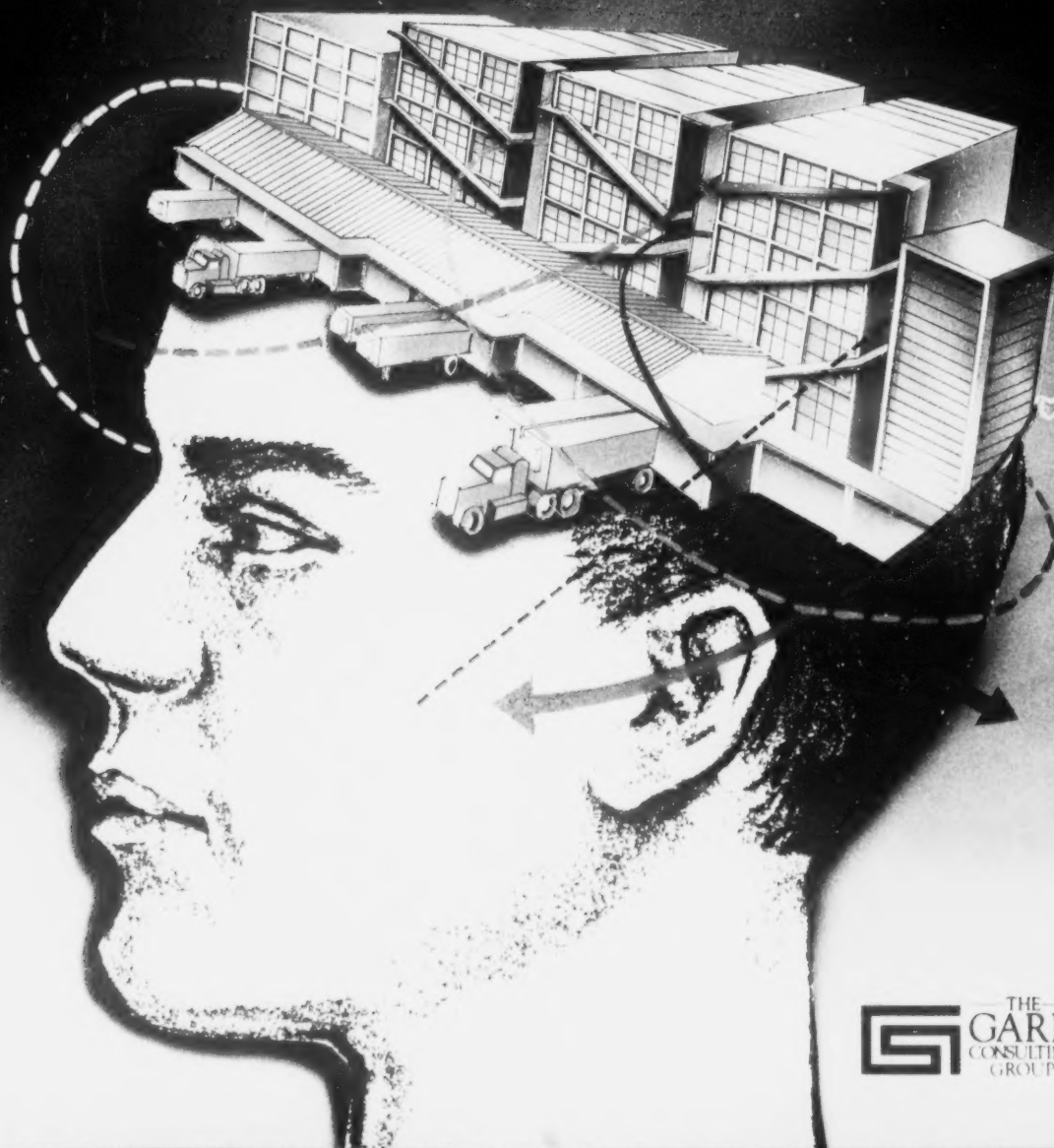
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Chain Store Age
EXECUTIVE

APRIL 1992 SECTION TWO

RETAIL DISTRIBUTION AND LOGISTICS

ISSUES OF THE 90s



 **THE
GARR**
CONSULTING
GROUP

2000 YEARS OF COMPETITIVE LOGISTICS

Logistics have been a pivotal factor in military competition for over 2,000 years. Rome's armies conquered North Africa, Europe, and much of Asia in 200 B.C. because their engineers built state-of-the-art roads, bridges, and water systems that enabled troops to move far and fast.

Later, Napoleon's armies overran 19th Century Europe with the help of two skilled logisticians: a chief of staff who wrote the first textbook on logistics ("The Practical Art of Moving Armies"), and another Frenchman whose inven-

tion of canned foods extended the troops' operating range.

In 1991, a few months of carefully planned and executed distribution and logistics by U.S. forces set the scene for a major war that was won in 100 hours.

In a gentler area of competition, distribution has long played a significant role in a company's support system. Until recently, retailing "distribution" meant warehousing and transportation.

But, a fiercely competitive marketing environment has lead retailers to incorporate logistics into

their distribution planning.

Armed with information technology and aggressive management techniques, progressive companies are turning retail distribution into a global process, hardwired to logistics, in an effort to move merchandise at optimal cost all the way from vendors into stores and onto their counters.

Managers who were responsible for trucks and warehouses are now responsible for satisfying store customers. The data that follow document how this is happening now . . .

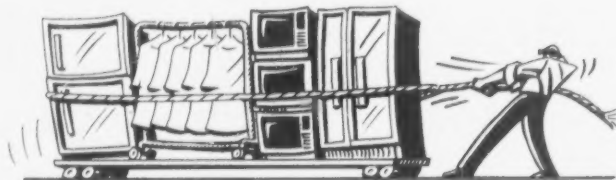
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OVERVIEW

Logistics is an increasingly important ingredient in the competitive ferment churning retailing today. This 1992 study of distribution in retail companies across the country documents ways in which logistics activities are expanding the range and profit responsibility of distribution in the industry. Carr Consulting Group, a division of Deloitte & Touche, conducted the survey. *Chain Store Age Executive* is the publisher. Avery Dennison and Exel Logistics are the exclusive advertising sponsors of the report.

The study encompasses two phases. The first is a telephone survey of executives and managers responsible for distribution and logistics in a range of retail companies. The second phase is an in-depth roundtable discussion with executives and consultants involved in distribution and logistics. The study addresses the following:

- **Current State of the Art:** The participants provide us with information on the current state of the art, including their use of distribution centers, the cycle times of merchandise through their organizations, and the use of push vs. pull methods of inventory management.

- **Operating Problems and Opportunities:** They talk to us about their operating problems and opportunities. They discuss how effective their organizations are at managing inventory and integrating it with the company. They also report on how their employees are performing in terms of quality and productivity.

- **Technological Changes:** Managers report on how far they've come in the use of various types of technological advances in inventory control and where they expect to increase their use of technology.

- **Metamorphosis of Distribution:** Our roundtable discussion focuses on where distribution and logistics is heading in the future and what is driving some of those changes.

SURVEY SCOPE

A total of 122 companies participated in this survey. Companies were selected from among the largest organizations in several areas of retailing. They included 24 supermarkets and drug stores, 23 department stores, 18 mass merchandisers (including discount store chains), 22 specialty apparel retailers, 16 home centers or hardware store chains, and 19 other types of retailers, including bookstore chains, greeting card retailers, shoe stores and direct merchandisers.

The companies surveyed had a range of sales revenues. Twenty-

three of the companies had 1991 sales under \$50 million; 38 from \$51 to \$200 million; 31 from \$200 to \$999 million; and 20 had sales of \$1 billion or more. In all, the 122 companies accounted for an estimated \$105 billion in retail sales.

At each company, we interviewed the person responsible for distribution and logistics. Fifty of those we talked to were vice presidents, 38 were managers of distribution, 20 were directors of operations, four were presidents, and the balance were managers of various areas.

Summary of Companies Interviewed

	Total	Companies
All Companies	100%	122
TYPE OF RETAILER		
Department stores	19%	23
Mass merchandisers (includes discount retail chains)	15%	18
Specialty apparel retailers	18%	22
Home centers and hardware stores	13%	16
Supermarkets and drug stores	20%	24
Other	15%	19
TOTAL SALES FY 1991		
Under \$50 million	19%	23
\$51-\$200 million	31%	38
\$201-\$999 million	25%	31
\$1 billion plus	16%	20
Not reporting	9%	10
Total estimated sales \$105 billion		
POSITION OF RESPONDENT		
President/ceo	3%	4
Vice president	41%	50
Manager of distribution, etc.	31%	38
Director of operations, etc.	16%	20
Controller/treasurer	2%	2
Other	7%	8

1992: A PIVOTAL YEAR?

As retail margins shrink, stores all over America are closing. Retailers who remain and expect to grow find that they have to become more efficient, as more and more retail dollars are being spent for the cost of goods and fewer dollars for the services retailers provide.

The weeding of American retailing, pushed by the recession, can be expected to continue, as competition becomes smarter and tougher. The correction of over-storing creates fertile ground for nimble retailers to grow.

The Garr Consulting Group/*Chain Store Age Executive* study of retail distribution and logistics executives revealed the following key findings:

- Retailers are developing new combinations of distribution methods to custom-fit their operations.
- Distribution centers are shrinking.
- Distribution cycle times are compressing.
- The burden of sku's and coordination with vendors is growing.
- Most retailers now have strategic alliances with vendors.
- Transportation remains distribution's slowest link.
- Retailers employ leading-edge technologies extensively but selectively.
- Eight in 10 retail products are now coded.
- Managers say *they* are distribution's weakest links.
- Managers rate their integration of marketing and inventory functions as "good to excellent."

As retailers learn to manage declining margins, their attention shifts towards the distribution of goods. While distribution practice varies widely, many retailers are now re-examining the way in which they manage their inventories and bring goods from vendors to their stores.

Distribution
is the business
of the ceo.
The highest
level of
company
management
must set
policy for
distribution
logistics and
participate
in its
management.

Many retailers believe that distribution logistics has an important impact on both the bottom line and on their store's competitive appeal.

Some retailers are even uncomfortable with the word "distribution" and prefer concepts such as logistics, systems and merchandise flow, which are more appropriate to managing the flow of goods from the vendor to the store shelf.

Retailers are rethinking their distribution and are open to experimenting with new methods. While many maintain a healthy skepticism about how improved distribution can benefit the art of the merchant, almost no one feels comfortable with the status quo. Traditional and time-honored distribution practices are no longer trusted.

Technology is, of course, a powerful agent of change. As previously unavailable information about sales and inventory becomes routinely available, retailers try to exploit this new knowledge about their business. This increase in data is creating new working relationships with vendors that aim at improving in-stock position, shortening time lines, and paring inventories in the store and in the distribution centers. By formulating more significant relationships, new balances are being struck between retailer and vendor in their exposure to inventory risk.

Different retail categories invariably rely on different solutions to the logistics of distribution. Among fashion retailers, the logistics of distribution are profoundly different for the department store which deals with thousands of vendors a few sku's at a time, and specialty apparel chains, which concentrate their sourcing with relatively few vendors who supply more sku's.

At the same time, supermarkets

and drugstores who sell package goods, most of which are purchased frequently, face different problems than electronic superstores, which deal with large ticket items that have relatively low turnover.

Important areas of agreement, however, supersede inherent differences among retailers. The common ground symbolizes what can be described as a new philosophy influencing retailers' approach to distribution. Retailers generally agree that *out of stock* is a mortal flaw. Increasingly, out of stock is seen as a betrayal of trust between the store and the shopper. Lost sales and lost customers from out of stock are not seen as inevitable but as intolerable.

Distribution is the business of the cfo. The highest level of company management must set policy for distribution logistics and participate in its management.

There is a natural synthesis between merchandising and distribution. Increasingly, retailers see an organic relationship between distribution and merchandising. One drives the other.

Detailed on-line knowledge about inventory and merchandise movement is a fundamental source of power. Superior information is seen as the foundation for managing effectively. It is the basis for forming partnerships with vendors, for forecasting inventory requirements, and for controlling elapsed time between the manufacture and sale of product.

Two years of hard times for retailing are making retailers more fervent believers in the need to offset declining margins by improving the distribution of goods. As the shakeout in retailing winds down, we may well look back to 1992 as the year that marked the redesign and rebirth of distribution in America.



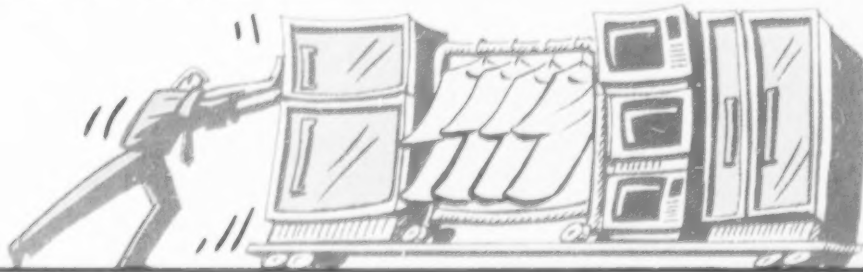
PUSH VS. PULL

The retailers surveyed utilize a range of inventory management methods. Asked whether their primary inventory method is preallocated ("push") or by order ("pull"), about one-fourth (26%) say they use push and one-half (48%) say pull. One in four companies (26%) uses both push and pull inventory methods.

Specialty apparel retailers are the most likely to use the push methods of inventory control (41%). Supermarket and drug store retailers are at the opposite

Percent of Retailers Primarily Using Push or Pull Method

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
Push	26%	35%	28%	41%	19%	8%	26%
Pull	48%	22%	58%	41%	56%	79%	43%
Both	26%	43%	16%	18%	31%	13%	32%

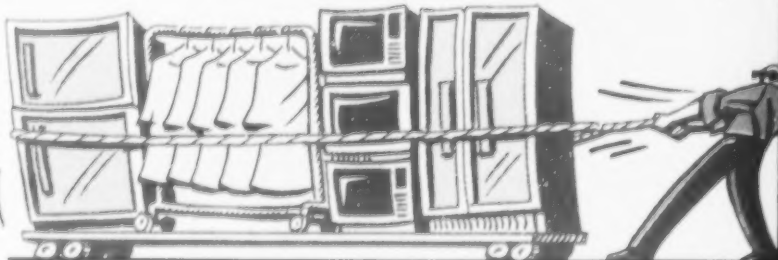


extreme, with only 8% using push and 79% using the pull method. Department stores stand out for being most likely to use a combination of both pull and push methods (43%).

How Much Push; How Much Pull? The proportion of inventory handling done by either a push or pull method varies widely among individual companies. However, as a group, the mean average percent of inventory handling done with pull methods is 55%, while the mean average by push methods is 45%. Fashion retailers, including department stores and specialty retail apparel stores, move more of their inventory using the push method, while packaged goods retailers tend to use the pull method. Among supermarkets and drug stores, nearly three-fourths (73%) of all merchandise is moved using the pull method.

Percent of Merchandise Moved Via Push or Pull Method

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
Percent push	45%	60%	45%	52%	43%	27%	43%
Percent pull	55%	40%	55%	48%	57%	73%	57%



THE VARIED WAYS RETAILERS HANDLE DISTRIBUTION

Some distribution methods are like panty hose—they fit practically everybody. At least eight in 10 retailers use distribution centers to store delivery systems (91%); record information at sku or product line level (85%); and gather store input on merchandise selection (79%).

But there are 10 other ways for retailers to handle distribution, and a majority use at least one of them to meet their needs . . .

Department stores with their many sku's and low vendor-to-sku ratio, are the heaviest users of basic locker-stocking (78%), on-line planning systems (74%) and Quick Response (83%).

Mass merchandisers are most likely to allow stores' input on merchandising selection (89%), and 83% use vendor-direct-to-store shipping.

Home centers also use vendor-direct-to-store shipping heavily

(81%), and are among the heaviest users of in-transit inventory (63%), and vendor certification (56%).

Supermarkets and drug stores are most likely to measure store space productivity by sku or product line (63%). They're relatively heavy users of vendor certification (54%) and vendor-direct-to-store shipments (92%).

Apparel specialty stores, like department stores, make heavy use of Quick Response (59%) and on-line planning (64%). Nine out of 10 (91%) generate information at size or color level. They're the most frequent users of in-transit inventory methods (73%).

Which of The Following Do You Currently Use?

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/ Drug	Other
Distribution center to stores	91%	96%	100%	86%	88%	92%	84%
Information at the sku or product line level	85%	87%	83%	86%	75%	88%	89%
Store input on merchandise selection	79%	74%	89%	82%	75%	75%	79%
Information at the size or color level	68%	83%	61%	91%	50%	50%	68%
Vendor direct to stores	66%	48%	83%	45%	81%	92%	47%
Identification of like trends across departments	61%	65%	56%	59%	50%	63%	74%
Just in time/quick response	59%	83%	50%	59%	50%	54%	53%
Basic locker stock always on hand	59%	78%	56%	45%	50%	54%	68%
On-line planning system	55%	74%	39%	64%	44%	54%	47%
Measure store space productivity by sku or product line	53%	57%	50%	41%	44%	63%	63%
In-transit inventory	52%	43%	50%	73%	63%	29%	58%
Vendor certification	43%	43%	33%	18%	56%	54%	53%
Reduced network	9%	9%	11%	5%	8%	13%	11%

DISTRIBUTION CENTERS...

David Lynn, distribution vp at McCrory Stores, says, "We've come full circle. Ten years ago you saw people having everything in the distribution center. Now they're trying to move everything direct to the store."

But, hold on, there are still a lot of distribution centers around

Distribution Centers Per Retailer: Our 1992 survey finds 86% of retailers currently with at least one distribution center. Most retailers (52%) have just one center, but 21% of the retailers have three or more.

On average, supermarket and drug stores operate the most distribution centers (2.7), followed closely by department stores (2.6). Specialty apparel retailers, on average, operate the fewest distribution centers (1.0).

Operating Cost: On average, retailers report spending \$11 per square foot to operate their distribution centers during 1991. For the smallest companies interviewed, those with sales of under \$50 million, the average cost per square foot was highest at \$26.5. Retailers achieve economies of scale in their distribution center operations until they reach the \$1 billion plus range of sales. For these largest retailers, the average cost per square foot is \$12.8, which is higher than the cost for retailers with sales between \$201 and \$999 million.

The mass merchandisers we interviewed report running the most cost effective distribution centers with expenses of \$3.80 per square foot during 1991. Home centers with expenses of \$20 per square foot and specialty apparel retailers with expenses of \$17.50 have the most costly centers.

Stores Served: Overall, each distribution center serves an average of 55 stores. Department stores have the lowest store to distribution center ratio, with an average of just 24 stores served by each distribution center. This ratio is nearly one-half that for mass merchandisers who, on average,

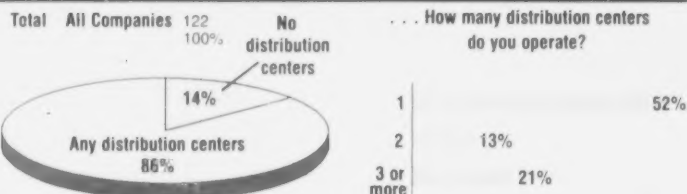
serve 40 stores with each distribution center. Specialty apparel retailers are at the other extreme with each distribution center serving 78 stores.

DC Employees: On average, retailers have 256 distribution center employees. The number varies widely by type of retailer. Department stores report the most employees, with 457, followed by supermarkets and drug stores with 330. Specialty apparel retailers

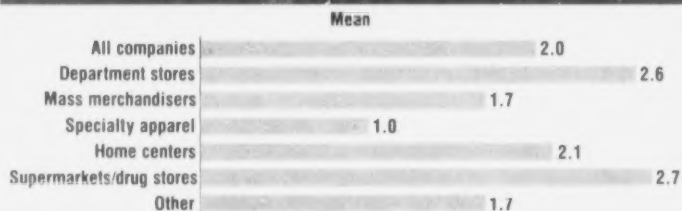
have the fewest number with an average of just 90.

On a percentage basis, department stores are the largest employers of part-time DC workers with, on average, more than a third (35%) of the work force hired on a part-time basis. Specialty apparel retailers are the next heaviest users of part-time workers with 27%. Mass merchandisers have the lowest percentage of part-timers (7%).

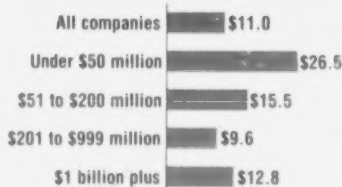
Total Number of Distribution Centers Operated



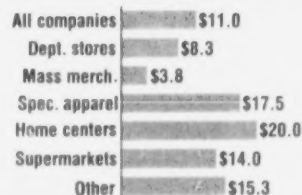
Average Number of Distribution Centers Operated



Expenses Per Square Foot of Distribution Center by Total Sales Revenue



Expenses Per Square Foot of Distribution Center by Type of Retailer



Number of Stores Per Distribution Center

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
All companies	105	22	15	19	14	18	17
	100%	100%	100%	100%	100%	100%	100%
1 to 10	16%	23%	20%	11%	7%	17%	18%
11 to 25	25%	55%	33%	11%	21%	11%	12%
26 to 50	18%	14%	27%	11%	21%	22%	18%
51 to 100	14%	—	—	26%	36%	22%	6%
More than 100	27%	9%	20%	42%	14%	28%	47%
Mean	55	25	40	78	56	62	72

Total Number of Warehouse and Distribution Center Employees

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
Mean	256	457	181	90	203	330	213

Percent of Workers Who Are Part-time Employees

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
Mean percent	18	35	7	27	13	10	11

... THE FUTURE

Our survey does find more retailers expecting to cut back on DCs (10%) than to increase them (5%). But the great majority (85%) expect to keep their present number of DCs at least until 1993.

Meanwhile, there's another way to look at information: One in five retailers (20%) plans to shrink its square footage in distribution center space. One in eight (12%) plans to cut more than 100,000 sq. ft. And every company planning such a big cut says it will increase its use of Quick Response delivery.

The declining role of distribution centers is also evident when we look at the aggregate sq. ft. in distribution centers. One in four (20%) of the retailers interviewed plan to decrease their square footage in distribution centers by 1993, and 12% plan to close 100,000 sq. ft. or more during that period.

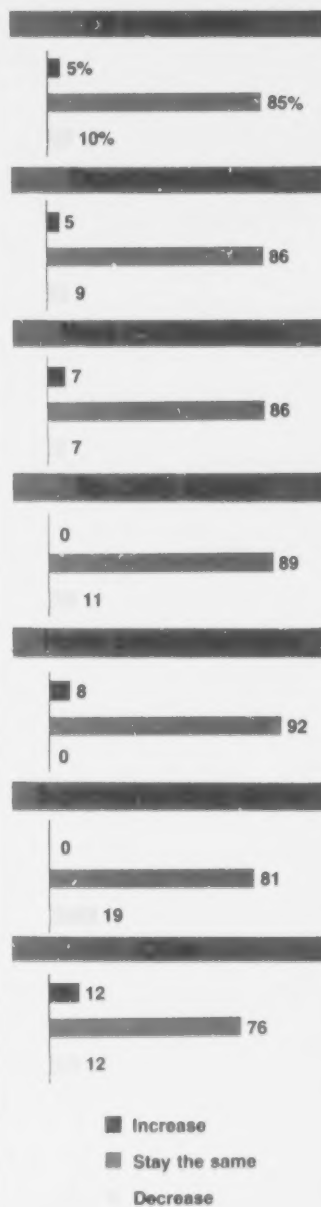
As retailers gain greater control over their inventories, they are

able to operate using Quick Response and Just-In-Time methods of replenishment. Under Quick Response, retailers replenish more frequently, but with smaller shipments.

When properly executed, Quick Response allows retailers to maintain or improve their in-stock performance with a smaller amount of inventory. Reduced inventory allows retailers to achieve several economies in their operations. In particular, it allows them to operate with smaller amounts of distribution center space.

In fact, all those planning to close 100,000 sq. ft. or more of distribution center space are also planning to increase their use of Quick Response delivery.

Changes in Number of Distribution Centers by 1993



CYCLE TIMES

Neil Weinstein, formerly vp of distribution of Silo Electronics, says: "The name of the game is speed; there is only one subject: speed."

As pressure increases to get products from the vendor into impatient consumers' hands, cycle times accelerate. Some retailers (16%) report time from vendor to distribution center under four days; most (65%) move goods through the DC within three days. From there, 38% get goods to the store within a day; and most (85%) now have merchandise on sale the day it arrives at the store.

Twelve Days from Vendor: Sixteen percent (16%) of the managers in our survey report cycle time under four days from vendor to the retailer's distribution center. Nearly one-half (45%) report a four to 13 day cycle. The mean average cycle time from vendor to distribution center is 11.5 days.

Seven Days Through the Distribution Center: Most companies (65%) move goods through their distribution center within three days of receipt from vendors. Mean average cycle time among all the companies reporting is 7.0 days.

Three Days to the Store: Nearly four of 10 retailers (38%) move goods from their distribution center to the store within one day. Eight in 10 (82%) have it there within three days. And, the mean average time from distribution center to the store is 2.9 days.

Two Days to the Floor: The fastest cycle of all is that between goods' arrival in store and on the sales floor. In most companies, (85%) it goes on sale the day it arrives at the store. Mean average cycle time between the store door, and sales floor among all companies reporting in our survey is 1.9 days.

Cycle Time From ... Vendor to Distribution Center

Base: Company Operates Distribution Centers

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
All companies	105 100%	22 100%	15 100%	19 100%	14 100%	18 100%	17 100%
None	—	—	—	—	—	—	—
1 day	3%	5%	—	—	—	—	12%
2-3 days	11%	23%	7%	21%	—	—	12%
4-13 days	40%	55%	33%	26%	29%	50%	41%
14 days or more	35%	5%	53%	42%	64%	33%	29%
Not answering	10%	14%	7%	11%	7%	17%	6%
Mean days	11.5	5.4	13.9	14.3	14.5	14.1	9.0

Cycle Time ... Through Distribution Center

Base: Company Operates Distribution Centers

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
All companies	105 100%	22 100%	15 100%	19 100%	14 100%	18 100%	17 100%
None	—	—	—	—	—	—	—
1 day	12%	9%	7%	18%	7%	—	35%
2-3 days	47%	73%	33%	63%	50%	11%	41%
4-13 days	18%	9%	2%	21%	21%	11%	12%
14 days or more	16%	5%	27%	—	14%	56%	—
Not answering	9%	5%	7%	—	7%	22%	12%
Mean days	7.0	3.4	8.0	2.9	9.8	18.8	2.8

Cycle Time From ... Distribution Center to Store

Base: Company Operates Distribution Centers

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
All companies	105 100%	22 100%	15 100%	19 100%	14 100%	18 100%	17 100%
None	—	—	—	—	—	—	—
1 day	34%	50%	33%	26%	14%	44%	29%
2-3 days	40%	27%	27%	53%	71%	39%	29%
4-13 days	13%	5%	20%	21%	7%	—	29%
14 days or more	4%	—	20%	—	—	6%	—
Not answering	9%	18%	—	—	7%	11%	12%
Mean days	2.9	1.7	4.9	2.5	2.4	3.3	3.1

It's easy to see where the most time could be trimmed along the way between vendors and the store's impatient customers.

The Effect of Push Vs. Pull on Cycle Time: Retailers using push inventory management move merchandise more quickly all the way from the vendor to the store sales floor. On average, retailers using the push method save nearly 10 days over the cycle times reported from vendors using the pull method. Those using push average 17.8 days from vendor to sales floor, while those using pull average 27.4 days. The retailers who use a mixture of push and pull fall roughly in between those who use one of the two methods exclusively.

How Different Types of Inventory Management Affect Speed Through Distribution Centers: Retailers are squeezing time in transit out of their distribution centers through a variety of techniques. Retailers using Quick Response and Just-In-Time cut over half a day, on average, from the amount of time merchandise spends in their distribution centers.

The greatest reduction in the duration of inventory in the distribution center is found among those retailers who identify like trends across departments, those who maintain information at the size or color level for various types of products, and those using a reduced network.

The retailers using these methods report that merchandise stays in their distribution centers over 1.5 fewer days than the sample as a whole. Two of the practices examined in our study are actually associated with an increased amount of time spent by merchandise in the distribution center: information at the sku level and vendor certification.

Cycle Time From . . . Store Receipt to Store Sales Floor

Base: Company Operates Distribution Centers

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
All companies	105 100%	22 100%	15 100%	19 100%	14 100%	18 100%	17 100%
None	—	—	—	—	—	—	—
1 day	57%	50%	53%	79%	43%	50%	65%
2-3 days	7%	5%	13%	5%	7%	6%	6%
4-13 days	2%	—	13%	—	—	—	—
14 days or more	2%	—	13%	—	—	—	—
Not answering	32%	45%	7%	16%	50%	44%	29%
Mean days	1.9	1.1	5.4	1.1	1.1	1.1	1.1

Average Days of Cycle Time by Type of Inventory Method

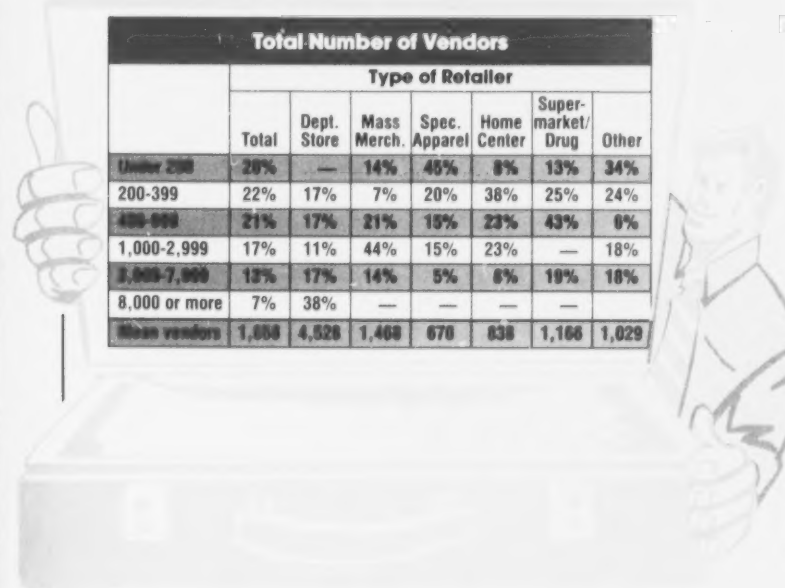
	Push	Pull	Both
Vendor to distribution center	8.6	13.4	11.8
Through distribution center	5.1	8.8	6.1
Distribution center to store	2.9	3.1	2.8
Store receipt to store sales floor	1.2	2.1	2.8
Total time	17.8	27.4	23.5

Average Days Merchandise Is Warehoused in Distribution Centers

All companies	7.0
Those using . . .	
Reduced network	5.3
Identification of like trends across departments	5.4
Information at the size or color level	5.5
Just in time/quick response	6.4
Basic locker stock	6.6
On-line planning systems	6.6
Measure store space productivity by sku or product line	6.7
In-transit inventory	6.7
Store input on merchandise selection	6.8
Information at the sku or product line level	7.4
Vendor certification	7.4

NUMBERS OF VENDORS

Preticketing of merchandise by vendors lightens the burden of some retailers. That being so, why don't more retailers use preticketing?



Total Number of Vendors							
	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
Under 200	28%	—	14%	45%	8%	13%	34%
200-399	22%	17%	7%	20%	38%	25%	24%
400-999	21%	17%	21%	15%	23%	43%	8%
1,000-2,999	17%	11%	44%	15%	23%	—	18%
3,000-7,999	13%	17%	14%	5%	6%	19%	18%
8,000 or more	7%	38%	—	—	—	—	—
Mean vendors	1,658	4,528	1,468	670	838	1,166	1,029

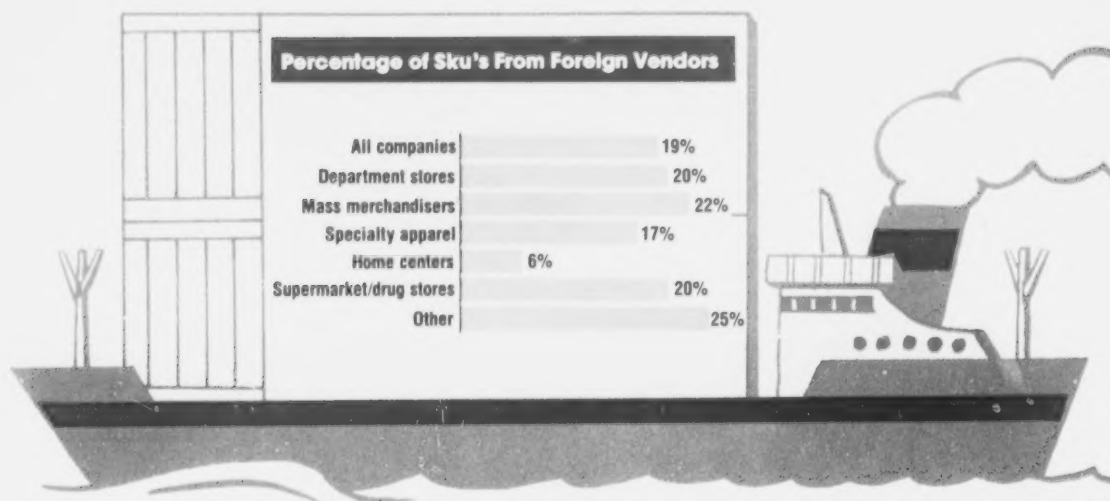
Average Number of Sku's and Sku's Per Vendor		
	Total Sku's	Sku's Per Vendor
All companies	36,000	22
Department stores	100,000	22
Mass merchandisers	45,000	31
Specialty apparel	6,000	9
Home centers	30,000	36
Supermarket/drug stores	19,000	16
Other	14,000	14

Vendors Per Company: The mean average number of vendors used by companies in our survey is 1,658. Just 20% use fewer than two hundred vendors. At the other end of the range, 7% of the companies use 8,000 or more vendors.

Department stores have the toughest logistical challenge when it comes to coordinating with vendors. Department stores have by far the largest number of vendors, averaging roughly 4,500, or three times that for the discount and mass merchandisers we interviewed.

SKUs: The department stores' logistical challenge is compounded by the massive number of sku's they carry. With roughly 100,000 sku's, department stores have, on average, more than twice the sku's as the mass merchandisers. Mass merchandisers, including discount stores, have the second largest number of sku's with 45,000.

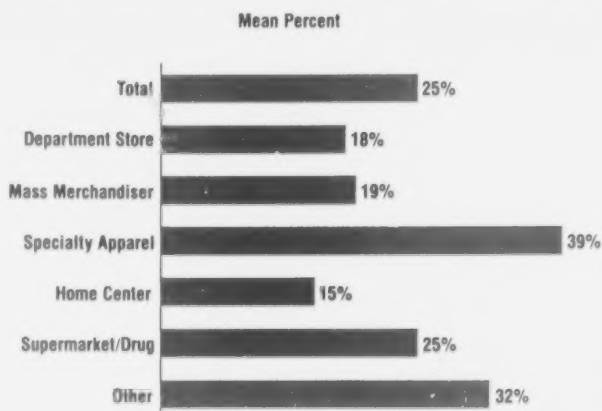
Despite the large number of sku's carried by the department stores, they have an average number of sku's coming from each vendor (22 sku's/vendor). Home centers (36 sku's/vendor) followed by mass merchandisers (31 sku's/vendor) have the largest number of sku's per vendor. Specialty apparel retailers have the smallest number of sku's per vendor (9 sku's/vendor).



Foreign vendors: Retailers report that about 20% of sku's are sourced from foreign vendors. This percentage is relatively steady between the different types of retailers, with the exception of home centers which report only 6% of their sku's are sourced outside the United States.

Preticketing by Vendors: On average, one-quarter (25%) of the merchandise arrives preticketed by vendors for use by the retailer. Specialty apparel retailers have gone the furthest in having their merchandises preticketed for them, with an average of 39%, while home centers have the lowest percent, with just 15% of their merchandise preticketed. Department stores and mass merchandisers could conceivably benefit the most from preticketing because they carry the largest number of sku's. These retailers, however, have relatively little preticketing, less than 20%, on average.

Percent of Merchandise That Is Preticketed by Vendor



STRATEGIC ALLIANCES WITH VENDORS



Six out of 10 retailers say they've entered into strategic alliances with their vendors. Why? That depends a good deal upon the kind of retailer you are . . .

As communications simultaneously become both more complex and vital, and deliveries become increasingly pressing, more retailers and vendors realize that they have to get their heads and acts together. When we asked managers, "Has your company established any strategic alliances with vendors?", 61% said "yes." Department stores and home centers are most likely to have entered into strategic alliances with their vendors.

Alliances Where? Strategic alliances have been tailored to fit the individual needs and problems of retailer and vendor. So, when we asked managers in what areas their alliance has been made, we received a very wide range of answers. In part, the diffuse variety of strategic alliances may reflect the relative infancy of this method of improving inventory management.

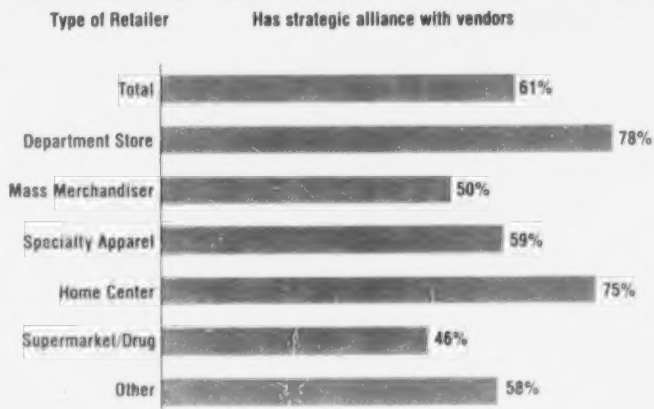
Among all retailers, however, EDI/Electronic Data Interchange is an area of vendor alliance mentioned spontaneously by 6% of all companies. One-third (35%) of the department stores mention alliances to strengthen their offerings of fashion clothing and women's apparel. A somewhat smaller percentage (23%) of specialty apparel retailers also mention establishing alliances in the fashion clothing area.

Mass merchandisers' alliances

tend to be aimed at strengthening their in-stock performance as most mentioned concerns about replenishment programs or maintaining basic stock items. Mass merchan-

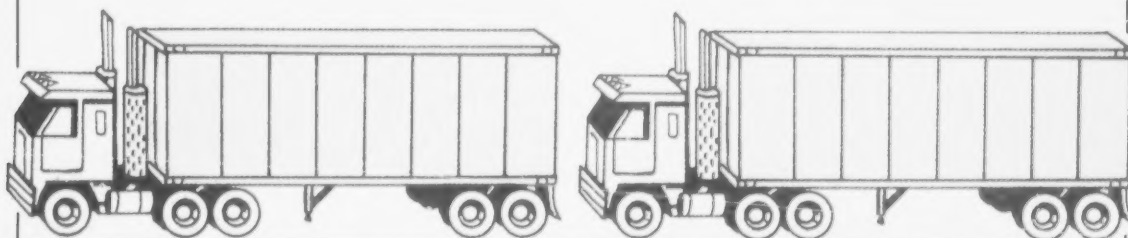
disers are also following the trend set by department stores and specialty retailers by working with vendors to improve their apparel offerings (6%).

Has Your Company Established Any Strategic Alliances With Vendors?



TRANSPORTATION

The mean average shipment time from vendor to distribution center of 11.5 days is the s-l-o-w-e-s-t link in the whole chain from vendor to consumer. How do the transport methods used by most retailers for their inbound shipments affect this?

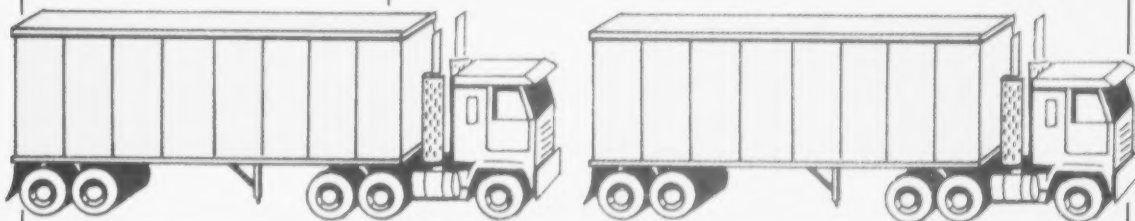


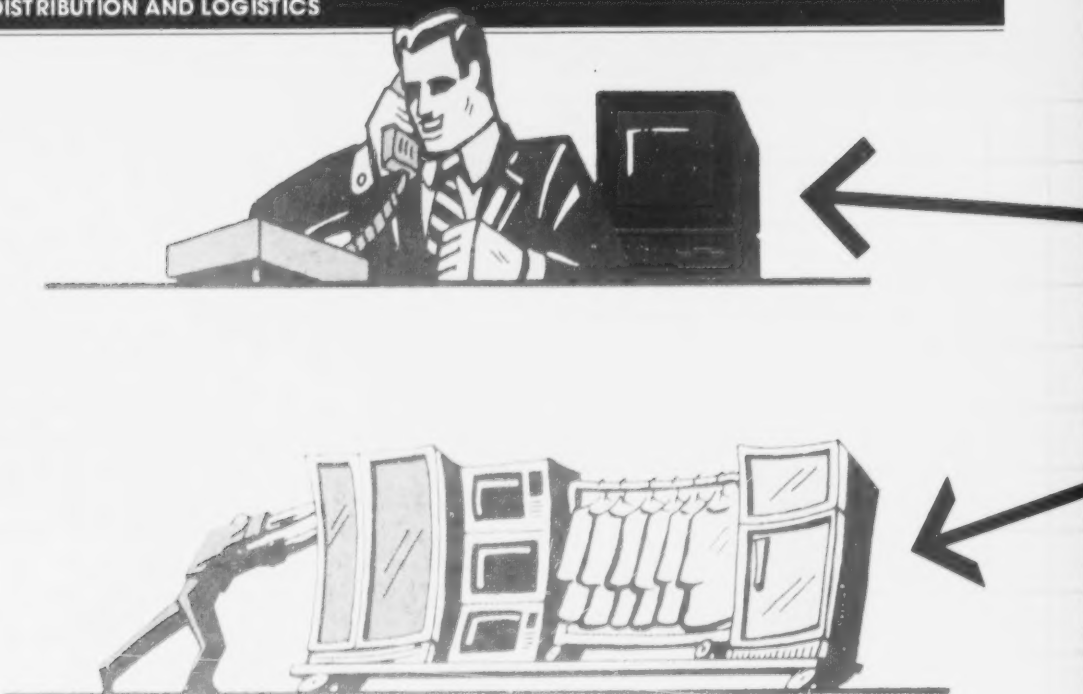
Inbound Transportation: Common carrier by the truckload is the most frequently used form of inbound transportation. The two retail segments most likely to use this type of transport are home centers (93%) and department stores (86%).

Third-party-dedicated transport is used least often overall, with only 15% naming it as a form of inbound transportation. Discount stores, supermarkets and drug stores are most likely to use third parties for inbound freight.

Outbound Transportation: Private fleet is the most often used form of outbound transportation, with over one-half of the retailers (61%) naming it. Supermarkets and drug store chains use private fleet most often for outbound shipments (78%); specialty apparel stores and mass merchandisers least often (53%).

Transport Used Inbound and Outbound From Distribution Center							
	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
Private Fleet:							
Inbound	30%	14%	40%	32%	36%	44%	18%
Outbound	61%	59%	53%	53%	64%	78%	59%
Common Carrier (less than a truckload):							
Inbound	67%	50%	53%	79%	79%	61%	82%
Outbound	23%	9%	7%	26%	36%	6%	59%
Common Carrier (full truckload):							
Inbound	71%	86%	40%	58%	93%	67%	82%
Outbound	23%	9%	27%	32%	29%	11%	35%
Contract Carrier:							
Inbound	38%	23%	40%	42%	50%	39%	41%
Outbound	26%	32%	33%	11%	50%	22%	12%
Third Party Dedicated:							
Inbound	15%	5%	20%	11%	7%	33%	18%
Outbound	9%	9%	7%	—	—	6%	29%





MANAGERS RATE THEIR ORGANIZATION

The weakest link in the logistic and distribution system is in the executive suite. Who says so? Managers. They rate their current performance lower than that of the distribution center's floor workers.

Of the four areas critiqued by managers, the lowest rated are "integration of logistics and marketing" and "effectiveness of inventory management." The two highest rated areas are the "productivity" and the "quality" of the work done by distribution employees.

Participants were asked to rate their organizations' current performance in these areas using a nine-point scale, where nine means "excellent" and one means "not good."

Integration of Logistics and Marketing: About one in 13 managers (7%) rates the integration of marketing and inventory functions in his company excellent. Over one-half (51%) rate theirs good/pretty good. Home centers (13%) and supermarkets and drug stores (17%) are most likely to rate the integration of marketing and inventory functions as excellent. Mass merchandisers feel they have the longest way to go towards integration, with 50% rating their efforts in this area as good and none rating it excellent.

Managers Rate Their Organization				
	Integration of Logistics and Marketing	Effectiveness of Inventory Management	Productivity of Distribution Employees	Quality of Work by Distribution Employees
(9) Excellent	7%	7%	9%	7%
(7-8) Good	51%	51%	69%	76%
(7-9) Not	58%	58%	78%	83%



Integration of Marketing and Inventory Functions

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
(9) Excellent	7%	—	—	5%	13%	17%	11%
(7-8) Good	51%	61%	50%	59%	50%	42%	42%
(7-9) Net	58%	61%	50%	64%	63%	59%	53%

Strengths in Integration: When we ask managers to tell us the strengths their company has in coordinating marketing needs with logistics and inventory management, a number of managers speak about technology's contributions to integrating operations. Specifically, they cite the use of computers, EDI, MIS and POS equipment. But, the positive factors mentioned most often involve human effort and cooperation. One in four managers spontaneously mentions daily communication and cooperation to improve coordination between logistics and marketing. Examples of answers in response to the following question illustrate managers' thinking on the subject.

"What are some of the strengths your company has in integrating marketing needs with logistics and inventory management?"

"We have an order in the box before we manufacture the product [on the bulk stuff]. It's on the road in two hours. We're very flexible; we can make orders on demand."

"The strength basically involves our MIS system. We get information quickly and can move merchandise on a dime."

"The traffic department works closely with the merchants to get freight in. The buyer goes directly to transportation to get goods in the most efficient way."

"The new system will make the buyer aware of what goods are in the store and in the warehouse.

We will have an exact count of goods."

"There is good verbal communication. When there are problems, people get on the line immediately to solve them."

"Our current computer system allows information to be distributed equally to all departments."

"We develop transportation needs around marketing and competitive needs of the organization and prioritize transportation around those needs. Some high fashion items require special handling and we address those special needs."

Weaknesses in Integration: Managers mention over 20 different obstacles to integrating sales and inventory operations. Most frequently mentioned are "Late shipments by vendor/obtaining goods . . ." (mentioned by 14%); "Sometimes we don't talk to each other enough . . . the different departments" (7%); and "Accurate predictions on sales demands/no patterns to sales . . ." (6%).

Examples of other obstacles include:

"What are some of the obstacles in integrating marketing needs

with logistics and inventory management?"

"The biggest obstacle today is the government. We spent untold hours trying to fill out reports."

"The only thing is geography. We have stores in Los Angeles and in the East. It takes longer to get merchandise there."

"There are not enough people to do what needs to be done in data processing."

"The store managers don't like staff people interfering in their store, checking their merchandising."

"We've operated for 45 years without a computer system. The buyers are used to buying what they want, and it may be difficult for them to accept the new system."

"Seasonal merchandise is an obstacle because some companies oversell, and we don't get our stock. The reps will say they have the merchandise; we order it, and then don't get it."

"We do not have a good replenishment system. We overbuy and get untimely purchases. We lack good forecasting."

"Manufacturers are not shipping what you order. That won't change."

"An obstacle is breaking down barriers from employees about new technology. There is a lack of follow-up to be sure they understand the new systems."

"Saturated space. Too many companies tried to get their share of it, and someone had to give."

Effectiveness of Inventory Management: When we ask managers to rate their inventory operation on a sliding scale from nine to one, only one in 13 (7%) rate theirs excellent, and about one-half

(51%) rate their performance in this area as good or very good.

Faced with the largest logistical challenge, department stores, as a group, rate the effectiveness of their inventory management lower than did the other kinds of retailers interviewed. At the other extreme, specialty apparel retailers, with a relatively simple logistical task, rate their effectiveness comparatively high.

Current Strengths: When they consider what strengths their company now has in its inventory management program, the strengths mentioned most often by managers in our survey are: Accurate Inventory Records (22%); Technology/Automation (15%); Have a Good System (9%); and Management Commitment (8%).

Examples include:

"What are the strengths of your inventory management program?"

"We know exactly what was sold yesterday and can replace it immediately."

"We are strong at keeping the lid on what's coming in. If we're overstocked we cut off incoming stock."

"We have barcoded tickets."

"Our loss prevention program in-store . . . better precautions against theft, monitoring systems and employee awareness."

"We keep good records."

"Automation—it speaks for itself."

"We offer our customer better selection than an average discount store."

"We have flexibility. We are able to get goods fast and get them out to our stores quickly."

"Individuals selectively make contributions to the management process."

Current Obstacles: The two obstacles to their inventory management program mentioned most often by managers both have to do with technology: "System doesn't give exact/correct/accurate information" (mentioned by 9%), and "Lack of Automation" (8%).

"What are the obstacles to your inventory management program?"

"There has been a reduction in management in all stores. There is less scrutiny due to cutbacks."

"The fact that forecasting consumer buying is not an exact science."

"There are no checks and balances. If a mistake occurs, it's very hard to find it."

"Coordination and communication of the people involved."

"Just training how to use the systems."

"Employee theft."

"Forecasting accuracy at the times of the year when we have unique business like a new product line."

"Down time caused by when the phone system is out."

"We have a large database of items to manage."

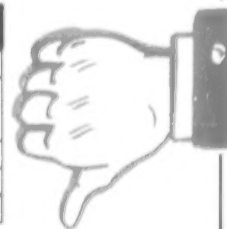
"Not being totally computerized."

"There's a lack of systems. It's not state of the art."

Distribution Employee Productivity: When we ask managers to rate the productivity of their employees on a scale from nine meaning "excellent" to one meaning "not good," only 9% rate their employees' productivity excellent. However, a substantial ma-

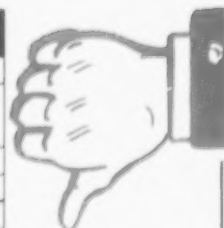


Effectiveness in Inventory Management							
	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
(9) Excellent	7%	4%	—	18%	—	13%	5%
(7-8) Good	51%	39%	61%	55%	56%	46%	53%
(7-9) Not	58%	43%	61%	73%	59%	59%	58%





Productivity of Employees							
	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/Drug	Other
(9) Excellent	9%	13%	6%	9%	13%	8%	5%
(7-8) Good	69%	61%	78%	73%	56%	71%	74%
(7-9) Net	78%	74%	84%	82%	69%	79%	79%



majority (69%) rate their employee productivity at eight or seven, a "very good" to "good" level.

Home Centers trail stores as a whole on the perceived productivity of their distribution employees, while mass merchandisers and specialty apparel retailer rate themselves higher on this measure than other retailers.

Although home centers and department stores trail retailers overall, more give excellent ratings to their distribution employees' productivity. These two types of retail categories thus display more variation in their performance than other retailers.

What Are Their Strengths? Managers name over 20 different factors they believe strengthen their employees' productivity. The five mentioned most frequently are loyalty (named by 19% of managers), incentive (14%), supervision (12%), training and tools (10%) and work standards/ethics (10%). These and other factors are expressed as follows:

"What are the strengths leading to the productivity of your employees?"

"Everyone is compensated on productivity on a base plus system."

"You make as much as you produce."

"We're looking at improving incentive programs and introducing engineered programs to increase productivity."

"We hired a consultant that's created an engineered standard. Each employee is measured against a standard and paid a bonus for productivity over 100%."

"Organization. We have to run efficiently because we're a small business."

"They're dedicated to the operations. They're willing to make suggestions and trust in management directions."

"We use an in-house incentive program."

"Exposure from top brass to bottom. We get together and huddle, there's a game plan . . . team work."

"They have a clear goal of what's expected of them, and they receive good training and direction on how to attain their goals."

"They are conscientious and loyal to the company because of the benefits we offer."

"Constantly being busy! Enough work for everyone!"

"Dedicated people and longevity, the average service is in excess of 10 years."

"Well-defined computer systems. Good training which is consistently applied and productivity measurements."

"Everyone knows everyone else's job, cross-training."

"We have measured work standards that have to be followed."

"Extensive training. Very committed effort by our management. Realistic goals. Time and monitoring."

"Having one vendor, knowing the product and popular prices."

"We have good workers with a good work ethic. Most are from working families. They know that they have to work for a living; nobody's going to give it to them."

"Paying a lot of attention to incentive pay and cross-training is a given because of peak and valley times."

Obstacles to Productivity: Managers also cite numerous obstacles to productivity of their employees. Most frequent are obsolescence in machinery (mentioned by 7%), employee absence (7%) and late delivery of merchandise/out of stock (5%).

"What are the obstacles to the productivity of your employees?"

"Inconsistency of vendor packaging [sizes and prepacks]."

"The pressure to be productive can hurt employees that have trouble performing at 100%."

"Sometimes we get flooded with merchandise they can't handle."

"We have a more traditional work force, e.g., job titles, older ways of managing it, like requiring eight hour days. We're slowly changing."

"Poor management in place. We are not drawing good employees because of our rate of pay and location."

"The flow of merchandise into the warehouse has too many peaks and lows."

"We don't pay an incentive; you might get higher productivity if you did."

"People get too friendly and lose track of the business issues of the job."

"There is a lack of communication between markets, purchasing and distribution. It's hard to keep employees motivated when we have a week of nothing, and then a week of chaos, with orders all coming in the same day."

"The archaic systems. Everyone is using computers and we're still



Quality of The Work Performed by Employees

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
(9) Excellent	7%	4%	—	9%	13%	4%	11%
(7-8) Good	76%	83%	78%	77%	69%	83%	83%
(7-9) Not	83%	87%	78%	88%	82%	87%	74%



using paper for record keeping."

"They are unionized."

"The distance from your store to the warehouses. A lack of the company's own vehicles . . . we must rely on outside carriers."

"To achieve the goal that is in labor standards."

"A relatively high turnover. People are looking for full-time employment; they need more security than we can offer."

"Lazy people. Laziness or carelessness as in mis-ticketing merchandise."

"We are large, spread out over 22 states which creates supervisory problems."

The Quality of Distribution Employees' Work: When managers in our survey rate the quality of work done by their employees, using a sliding scale from nine ("excellent") to one ("not good"), nearly all (83%) rate the quality of their work as good or better.

Ratings do not vary substantially for the different types of retail categories. Mass merchandisers, however, tend to rate the quality of the work performed by their distribution employees somewhat lower than do the other types of retailers.

Strengths of Quality: Managers name almost 30 different strengths that make for quality in their employees' work. Mentioned most often are: loyalty/dedication/caring (mentioned by 27%), accuracy (13%) and quality checks/quality control (10%).

"What are the strengths of the quality of work performed by your employees?"

"Our production system has a

quality control program where errors affect your incentive pay."

"We have pretty good supervision. They seem to be pretty well organized, and they know what's to be done that day."

"We have constant training on procedures."

"Commitment to the company is very high. We have a lot of dedicated employees. Productivity is high. We equip them well to do their jobs."

"Our representatives know who they are working for and care about the company and their customers."

"The ability to meet the pre-established labor standards: to receive the product, store it, select it and ship it in a reasonable time. Twenty-four hour turnaround is reasonable."

"We are privately owned and know the employees very well. We're friends so we interact together."

"We have good internal training so paperwork gets filled out properly, and it gets sent to the right person and things are followed up on appropriately."

"We all work together. The owner pitches in and we are a close knit firm. We all pitch in to help get the job done."

"The accuracy and prevention of damaged goods. Most of our employees are long term, some 30 to 40 years."

Obstacles to Quality: The three obstacles to quality in the work of

their employees, mentioned most often by retail managers, are human error (mentioned by 7%), lack of training (7%), and need for automation (7%).

"What are the obstacles to the quality of work performed by your employees?"

"Poor documentation from vendors [discrepancies between purchase orders and vendor paperwork]."

"When there's an uneven flow of merchandise, then there is a push to get it out and a greater chance of error."

"There is a lack of training and inadequate training. People find shortcuts that lead to errors."

"Wasted time."

"We could use some technical upgrades to improve reliability and accuracy."

"Boredom is the biggest obstacle, and union work rules."

"Coffee time, personal calls, and how they spend company time."

"Employee turnover."

"Human error. We make mistakes like everyone else does."

"Equipment and systems are not modern which causes more handling and more risk of error with the goods."

"Communications . . . changes not getting through to the employees."

LEADING-EDGE TECHNOLOGIES

"Scanning, EDI, Barcoding, RF, Quick Response, and Just-In-Time are devices that will really make life much better," says Dan Seeley, executive vp of Garr Consulting Group.

The more accurate our information becomes, the easier our job gets. Used properly, they can assure the accuracy of regular inventory information. That's the key resource for doing anticipation, and to control the sold goods," according to Seeley.

Which Are Leading? Barcoding is being used by two out of three (66%) of the logistics managers surveyed.

EDI (Electronic Data Interchange) (61%) and Scanning (58%) are used by three out of five companies. And, RF (Radio Frequency) is used by 26%.

Department stores, as a group, have invested more heavily in leading-edge technologies than other retailers. Investment among other retailers is more selective. Specialty apparel stores have made relatively heavy investments in scanning (64%). Supermarkets and drug stores have invested most often in RF/Radio Frequency (46%) and also have invested heavily in EDI/Electronic Data Interchange (63%).

Which Barcoding Standards? When we ask managers "What Barcode standards do you currently use within your operation?" UPC is named by 89%, CODE 128 by 13%, "Our Own" by 8% and others tag behind.

How Much Is Coded? Managers whose companies are using barcoding report that a mean percentage of 79% of their products are currently being barcoded.

With that level of utilization by two out of three major marketers, it's little wonder that consumers now see and recognize barcoding everywhere, even as an art motif on T-shirts.

Specialty apparel retailers have gone the farthest in barcoding merchandise. Those who use it report that 94% of all their merchandise is barcoded.

Leading-edge Technologies Currently Being Used

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/ Drug	Other
Barcoding	66%	87%	61%	59%	63%	54%	68%
EDI (electronic data interchange)	61%	78%	61%	55%	38%	63%	63%
Scanning	58%	87%	39%	64%	38%	54%	58%
RF (radio frequency)	26%	35%	11%	5%	38%	46%	21%

Barcode Standards Currently Used

Base: All Who Are Currently Using Barcoding

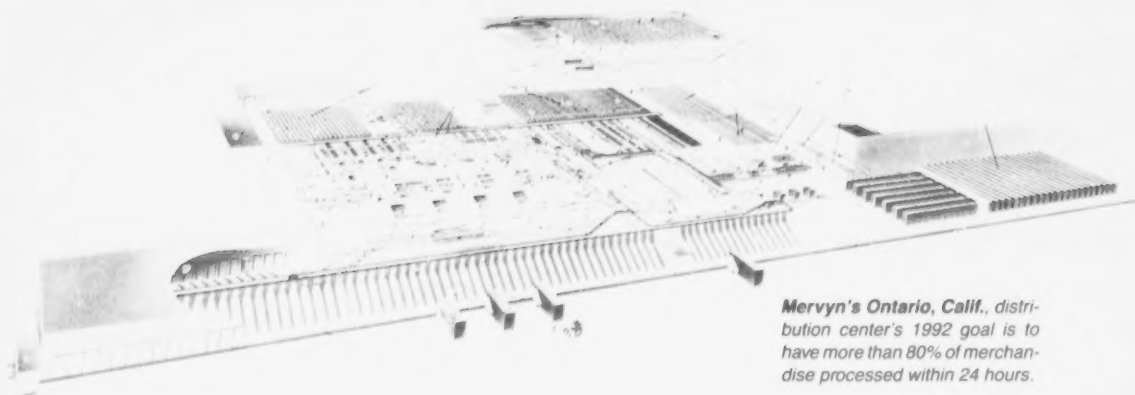
	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/ Drug	Other
Barcode standards: (net)	100%	100%	100%	100%	100%	100%	100%
UPC	89%	89%	100%	67%	100%	100%	75%
Code 128	13%	28%	—	22%	—	10%	—
Our own	8%	11%	—	11%	—	—	25%
Code 39	6%	11%	—	22%	—	—	—
EAN	2%	—	13%	—	—	—	—
Interleaved two or five	2%	—	—	11%	—	—	—
Other	2%	—	—	—	11%	—	—

Percentage of Products Being Barcoded

(Base: Those Using Barcodes)

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Super-market/ Drug	Other
Mean percent	79%	70%	87%	94%	78%	84%	65%

MERVYN'S CUTS DC TIME



Mervyn's Ontario, Calif., distribution center's 1992 goal is to have more than 80% of merchandise processed within 24 hours.

In 1986 Mervyn's Ontario, Calif., distribution center was struggling to move merchandise through its seven-year-old facility within five days.

By 1989 it had reduced the throughput time to three days and today, following an aggressive expansion project, the 1992 goal is to have more than 80% of merchandise processed within 24 hours. Mervyn's has positioned itself on the leading edge of retail distribution technology throughout its logistics process.

Mervyn's, the \$4 billion division of Dayton Hudson, is a moderate priced soft lines department store headquartered in Hayward, Calif. The company has 233 stores with 100 stores in California.

In 1989, the decision was made to expand and update the distribution system. Mervyn's relied heavily on the expertise of its MIS management and staff to take an aging distribution facility, the Ontario Distribution Center (ODC) with capacity for 1 million units, and turn it into a state-of-the-art distribution center with almost twice the capacity. The MIS team included Teri Katen, Dana Reed, John Irwin, Nick Lenhart, Maria Concepcion and Way Jane Gong.

"We wanted to develop a rapid communication link between Mervyn's and our vendors, we wanted to move information more quickly to the right people to allow



More than 90% of goods arrive preticketed at the center.

We strove to speed merchandise through the logistics pipeline to our stores.'

better decisions to be made, and finally we strove to speed merchandise through the logistics pipeline to our stores," explains Dennis Green, vp of operations.

Green's team included Mike Londellus, director of ODC, Don Lyons, project manager, Bruce Fedder, director of operations, and divisional managers Bill Meyer, Barbara Klipper and Ron Peruchin.

Mervyn's was successful in its endeavor to update its logistics operations primarily because it realized the need to invest in equipment, systems and in people.

"At Mervyn's we emphasize a player, coach concept in the management of our people," says Klipper.

Mervyn's commitment to improvement is demonstrated in its Constant Quality Improvement (CQI) concept. Coaches and players understand their goals and work hand in hand to accomplish the goals.

In addition, Green says that Mervyn's believes in a one-company philosophy. "Stores and Operations [distribution] work together as a team. Distribution works hard to service its customer, the store. We must always ensure that distribution is adding value to our customer, the store."

The team followed a well-defined process to take their company to the leading edge of retail

technology.

The initial focus was on developing vendor partnerships. Mervyn's worked with its vendors to ensure that merchandise arrived at the distribution center in floor ready condition.

"Floor ready means that each item is ticketed with the price, size and care instructions, and has a hanger that is acceptable for the sales floor. Over 1,000 of our vendors ship floor ready merchandise which can speed through the distribution center," says Green.

Londellus emphasizes the point, noting, "We eliminate staging and manual handling processes which helps us to achieve our goal of shortening the service window."

In 1989, 70% of merchandise was preticketed. Today, more than 90% arrives at the distribution center floor ready for sale.

Even more dramatic was the change in hanging garments. In 1989 Mervyn's placed its own hangers on all garments. In 1991, 93% of all hanging garments arrived at the store with acceptable hangers.

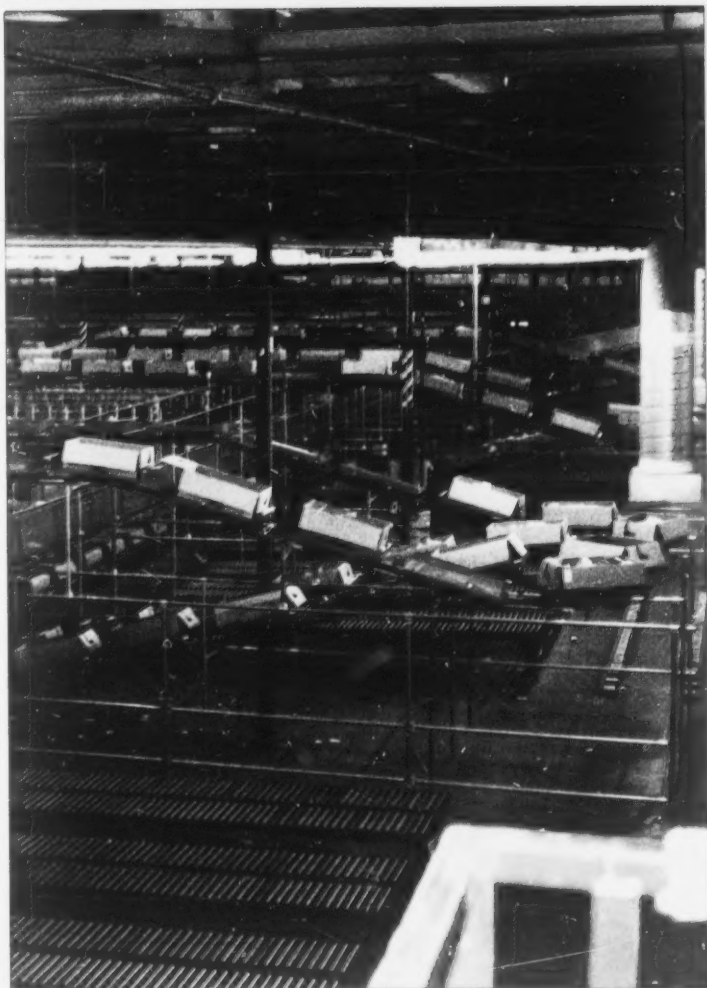
Surprisingly, the transition to floor ready receipts was not as difficult as Mervyn's initially expected. Mervyn's established a vendor compliance program, and in the case of hanging merchandise Mervyn's provided "spec" hangers to vendors up front.

Mervyn's is continuing to further strengthen its relationships with its vendors. Together they will push technology to work effectively for the partnership.

Mervyn's made a significant investment in technology to take its distribution system to the state of the art as it is today.

In receiving and shipping, Mervyn's is using barcode labels and scanners to route merchandise according to the merchandise's processing requirements. There are no fork lifts operating in the receiving or shipping areas of the distribution center.

Mervyn's has negotiated favorable agreements with its shipping partners that include trucking con-



Mervyn's doubled the capacity of its Ontario DC to nearly 2 million units.

tracts, sku separation, freight consolidation and backhaul concepts.

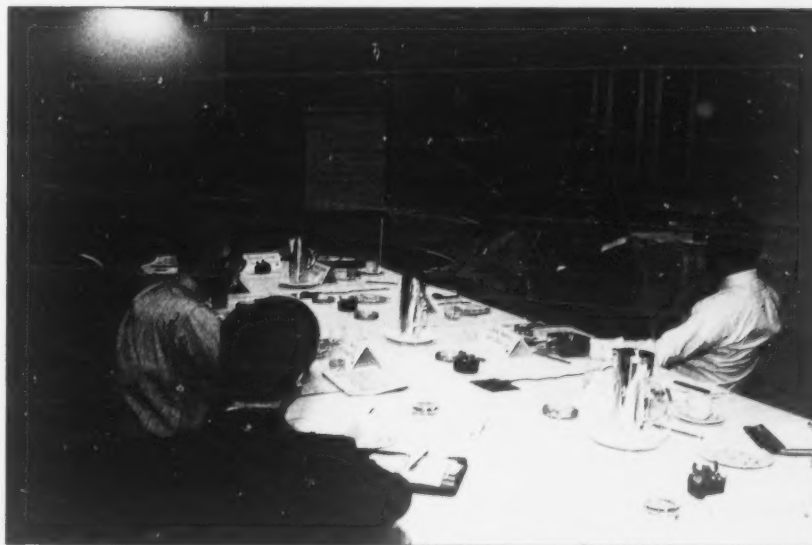
When merchandise is ready for shipment, cartons are scanned as they enter the appropriate truck and a manifest is automatically generated. At the store, the merchandise is unloaded and flows directly to the sales floor, bypassing the time-consuming detailed receiving process.

Mervyn's Warehouse Management System (WMS) allows the distribution center to track the flow of merchandise real-time, and to allow for greater control of the reserve stock area.

"The Warehouse Management System will act as a fuel gauge, allowing us to monitor activity and merchandise flow by area," explains Klipper.

Mervyn's is rapidly expanding its use of Electronic Data Interchange and Automatic Shipping Notice technology. It has 1,000 vendors on EDI and is paving the way toward a paperless environment with 65 vendors using ASN. It is putting more vendors on ASN, electronic mail and electronic invoicing.

LOGISTICS: A ROUNDTABLE DISCUSSION



Seated, clockwise from bottom, Charles Yanak, Dan Seeley, Neil Weinstein, David Lynn, Robert Lane, Dennis Green, Ed Mangiafico, Charlie Armstrong. Not shown, Murray Forseter and Kevin Young.

Through the 1990s you are going to see a trend to quicker response. You need better data integrity, better forecasting, and the ability to process in entirely different time frames, and manage the whole flow process.



Robert Lane, standing, executive vp of Garr Consulting, and Dennis Green, vp operations of Mervyn's.

Participants in our informal roundtable discussion were Dan Seeley, executive vp, and Charlie Armstrong, vp, Garr Consulting; Dennis Green, operations vp, Mervyn's; Ed Mangiafico, retired chairman, May, Calif.; David Lynn, senior vp, distribution services, McGroory Stores; Neil Weinstein, formerly vp, distribution, Silo Electronics; Kevin Young and Charles Yanak, senior marketing managers, Avery Dennison; Murray Forster, associate publisher/editor, Chain Store Age Executive. Robert Lane, executive vp, Garr Consulting Group, moderated the discussion.

Robert Lane: The role of retail distribution used to be basically getting merchandise to the store . . . trucks, warehouses and paperwork. What is the role of retail distribution today?

Dennis Green: Distribution is no longer just the distribution center. It's also fixturing the store, placement of sku's on the fixture and the distribution channel all the way back to the vendor.

Ed Mangiafico: The word distribution is really a misnomer. It is really the system and administration flow.

Dan Seeley: Right. And that job is being called logistics. It's at a reporting level and importance level with merchandising and stores.

Robert Lane: What is driving the transformation of distribution?

Dennis Green: The consumer choice is between retailer not between products. It's how well you execute in getting the product to them. That is how you distinguish yourself in the marketplace today.

David Lynn: What's driving change is that retailers are dropping gross margin and to manage with lower margins they are forced to reduce their inventory.

Ed Mangiafico: The increasing

size of retailer organizations is driving the changes in logistics; it increases cost exponentially. It's the number of stores and the distances that occur with the increased size of retail organizations. Also, in-stock service level has become much more competitively important.

Dan Seeley: There are so many national retailers competing in local markets that you have to be constantly aware of the specifics of each market.

Neil Weinstein: The marketers are looking for ways to beat the competition with lower margins.

Ed Mangiafico: In many respects we are an overstored economy, in this environment any potential edge a retailer gains is critical to their success.

Dennis Green: The consumer has many more choices and the customer is value driven.

Robert Lane: How do we manage our in-stock performance under this new type of distribution that is emerging?

Dan Seeley: It is not just a question of being in-stock. It is not being over-stocked. That makes the management problem go up geometrically.

Dennis Green: I think most retailers have or are developing systemic measures of the in-stock service. Some are automatic replenishment others are more rudimentary. In the hosiery department the rule of thumb used to be to keep those slots full, and we would fill empty slots with product from the next slot. Now you leave the slot empty so there is a crying need for replenishment for out-of-stock items.

Charlie Armstrong: When you look at what you spend to get cus-

tomers into your store, to risk disappointing them by being out of stock is just not worth it.

Dennis Green: You measure in-stock by how the customer perceives it. We do some statistical

tests where we send people into the store and see if they can buy it. Sometimes you think it is in the store but it is in the back room.

Neil Weinstein: The mind-set that you can shift the sale to another product comes out of the past and the over-stored market is putting an end to it.

David Lynn: Customers are just less tolerant; they are going to go to the next store.

Dan Seeley: One of our discount store clients defines in-stock by having at least one of each sku in-stock for the customer to buy. They were forced to come to this standard because they had to deal with so many distributors.

Neil Weinstein: One thing that is driving that perception is the superstore, because the customer perceives that there is a larger assortment and they will be in-stock.

David Lynn: Plus, you have the promotion business and the regular business and you have to run both and be in-stock on both.

Dennis Green: The regular business is the promotional business. Who has "regular" business these days?

Bob Lane: Who in the organization should be responsible for in-stock management?

Neil Weinstein: A combination of the merchants and the inventory management group to deal with the issue of in-stock. I think that combination works well for inventory management.

Charlie Armstrong: Taking a leap from Hewlett Packard, they decided the logistics side of the group should be in charge because they were the ones who were going to be responsible for getting the product to the customers through-



Dennis Green, vp operations for Mervyn's.

The consumer choice is between retailer not between products.

out the supply chain.

Ed Mangiafico: You can't exist if you have singular responsibility. I would say that if the responsibility is in the logistics groups then you have everyone in the logistics group.

Dennis Green: I would have to disagree. It is the total organization's responsibility for being in-stock. Merchants deal with the assortment, while stores are in charge of selling the merchandise.

Ed Mangiafico: A lot will depend on what happens with retailing. You may have a lot fewer stores due to consolidation and a different vendor structure.

Dan Seeley: There is no question that the buying function will become a smaller group over time that takes care of selection.

Bob Lane: How are vendor and retailer relations changing?

Ed Mangiafico: I think the most exciting part of the discussion is the partnership of vendor and retailer, now that you can manage the flow wherever you can run a data line, which is now anywhere. And you can push inventory management back to the manufacturer.

Dan Seeley: What do you do when you open a data line to the vendor? You may find that you have opened up a morass at the vendor end. You think that these vendors are going to be able to use the information?

Charlie Armstrong: You have to have the vendor understand what the cost is for the total process.

Dennis Green: Cost has to include time, and it all means nothing if you are not in-stock.

Neil Weinstein: You may have the same company managing inventory in two different ways. You will have the big vendors dealing directly and a different way for the smaller vendor. But anyway you

look at it, it won't be the traditional way. There is no longer a traditional way.

Charlie Armstrong: It is not just the technology, it is the philosophy of the vendor and the retailer.

Charlie Armstrong: The cycle from vendor to manufacturer is going to continue to evolve, because you go to the vendor and the vendor says, "I'd like to supply you with smaller shipments and quick response, but I can't get my grey goods supplier to accommodate."

Murray Forseter: The domestic mills are said to be fighting doing large runs, and fighting imports of high quality fabric.

Neil Weinstein: The idea of vendor/retailer partnerships sounds good, but what if the vendor has complete control over the inventory but does not get paid until the product is sold. Who is going to assume the risk? How is the risk involved in projections and when does a projection turn into a hard commitment? That is probably the

most important issue: who is going to take the risk.

Dan Seeley: Your questions go back to data integrity down to the sku level so that the projections you make are reliable.

Robert Lane: Let's follow up on that, what role does data integrity play in the vendor/retailer partnership?

Ed Mangiafico: The most important part of the partnership is data integrity.

Neil Weinstein: You look at the consumer electronics industry where the sales people are incentivized and where the exchange is in the double digits, what do you think the salesperson is going to do when the exchange comes in. Nothing, and that corrupts data integrity.

Ed Mangiafico: What we did in May Co. was to make the problem with error rates part of their compensation

and we saw error rates drop precipitously.

Charlie Armstrong: What they had at Venture is an error team to follow the product all the way back to the source and look for the error.

Dennis Green: The customer doesn't care about your data integrity. They don't want you to take their time to collect your information. The check out person is honorable in their intentions. They are trying to get the customer out of the store as quickly as possible.

Dan Seeley: You have got to have a commitment from the top down to make data integrity a priority.

Ed Mangiafico: Data integrity has to be chainwide.

Neil Weinstein: Technology is one obvious aspect, things like barcodes and scanning, and they give you the data in terms of sale rates.

Dan Seeley: The key is to capture the data once and then the data becomes a database that is a valuable asset that everyone needs but uses

in a different way. We found that people were doing something with one part of the data and then destroying the data that they don't need.

Dennis Green: We have been measuring the accuracy from the vendors and we have found that it is within 1% and the picking accuracy has a 0.8% error rate. We can build in control, but the problem is at the point of sale where the sale is rung up. There is no control there. We have started to monitor point-of-sale activities and have found data integrity is lost most often at the cash register.

Bob Lane: How are deliveries from vendors going to change as a result of the changes in retail distribution?

Neil Weinstein: The answer is going to depend on the type of business you are in. In the consumer electronics more delivery to stores may not be the answer as opposed to the lady apparel chain. Turns are so slow in consumer electronics, you can deliver virtually all year with one delivery per week.

Dennis Green: I see the inventory moving out of the store and back into the total supply pipeline.

Ed Mangiafico: I think you will always have second level inventory, but some of it might be in the pipeline on trucks . . . but you need the data integrity to do that.

Bob Lane: Have the changes in the information collected on inventory affected older measures of inventory, such as turn rate?

Neil Weinstein: Turnover rate is more important to some retailers than to others such as in apparel.

Ed Mangiafico: To me turnover rate is a symptom of being in stock.

Dennis Green: I think turnover rate is a dangerous measure by itself. It's a score but not a goal.

David Lynn: From an inventory management viewpoint it is critically important but it can be very dangerous.

Dennis Green: Turnover is a resultant number, not a goal in and of



Neil Weinstein, former vp distribution, Silo Electronics.



David Lynn, senior vp distribution services, McCrory.

itself. If we do what is right with inventory control, then we are going to have a higher turnover. It is a financial consideration for the high fashion retailer. It is more important for other retailers.

Robert Lane: How is the role of the distribution center changing as logistics change?

Dennis Green: Let's not use the fact that we got a DC to say, "Let's keep using it."

Ed Mangiafico: I am going to see the day when there will be no DC. I think that in the last few years I have really been trying to head there. Ultimately the vendors are going to be our DC. They will supply me with a box with all the information I need. I can handle it at a crossdock that I might not even own.

Dan Seeley: We are doing something where you get information to

the vendor on Monday, Wednesday to the cross shipper, and to the store on Friday for sale on the weekends. I see the DC getting smaller and smaller. Eventually, we may see one DC serving everyone in town.

Neil Weinstein: In consumer electronics there is going to be resistance. You are dealing with a few vendors like Sony who have their own lead times, plus you don't know how a product is going to sell in each store until you get product out of the store. And since you may only need to have a trailer load to fill a store, you may have to overcome some economic inefficiencies to ship directly to the store, but I do agree that you can push the process back as far as you can go with the

data.

Dennis Green: Third party suppliers are doing something different today because of data availability. You can develop systems that can allow the receipt function to be performed by anyone anywhere.

Neil Weinstein: With the bedding guys, the manufacturer said we can save some money by actually manufacturing the product after the customer has bought one of the same sku.

David Lynn: I think we have come full circle with the distribution center where 10 years ago you saw people having everything. The distribution center is now going to the point that you are trying to move everything direct to the store.

Neil Weinstein: The name of the game is speed, there is only one subject, speed.

Robert Lane: *Where should replenishment decisions be made in the organization?*²

David Lynn: As retailers get larger it is easy to make entire chain predictions for a product, but not at a store level, and if you try to get rid of the distribution centers then you are going to have to have too many sku's in the store. I do see the item moving through the DC in hours or minutes. I see all of the non-selling functions out of the store. It is not so much the financial consideration as with the quality considerations.

Neil Weinstein: On the average in the consumer electronics business you see a 0.27 turn every four weeks. Compare that to The Limited where you have virtually no replenishment. You do a test store and then say we are going to 200 units and put it in there.

Dennis Green: I don't think there is one solution for everyone. We are a national chain. Competition can change the rate of sales day by day. I think it is going to change and it's going to change dramatically. My vision is that the store just becomes a selling machine. I don't think the store manager is going to be a merchant, he is going to be a seller.

Ed Mangiafico: I think the store manager's role is not to decide if he needs green pants but to sell green pants if he has them.

Murray Forseter: I disagree, I think you are seeing a move away from centralization.



Ed Mangiafico, retired chairman, May Co., Calif.



Charlie Armstrong, vp. Garr Consulting Group, foreground, and Kevin Young, senior marketing manager, Avery Dennison.

The most important part of the vendor-retailer partnership is data integrity. Data integrity has to be chainwide.

Ed Mangiafico: Once you have centralized and provided the system, then you can decentralize but you need to have the system. I would not use the word centralized but system, and it is more system driven rather than human driven. The organization needs to be system driven but people managed.

Robert Lane: *At some retailers, once an item is on my shelf how much the store manager re-orders is strictly a store decision, but what they are going to carry is still coming down from the top.*

Ed Mangiafico: Wal-Mart is giving the store manager ownership, but the decisions are still system driven.

Dan Seeley: It goes back to what Dennis said earlier. It all comes back to data integrity.

Ed Mangiafico: The fact of the matter is this needs to be more than just a support for the decision making. It needs to be the context within which the decisions are made. It needs to be the parameters within which the decisions are made.

Charlie Armstrong: With 1,000 stores, the real problem is how you are going to manage the process and the systems are going to make the decisions and the human is going to manage the system.

Robert Lane: *Who wants to expand the discussion on system supported decision making?*

Neil Weinstein: I don't think that there is anyone involved in the retail process that can account for forecasting. I think we

need to develop better models. I think that we are at the level with newspapers in forecasting elections when they forecasted Dewey was going to win.

Charlie Armstrong: I think the retailer is going to take responsibility for the forecast initially. The resource will have a link at the store level and they will be able to adjust their production and planning. Like the department manager second guessing the replenishment, the vendor is going to second guess the reorder that the retailer is going to make.

Neil Weinstein: It all comes down to who is going to accept the risk and how far out you are going to go.

Dennis Green: We are sharing sales data and forecasts with 60% of our vendors, but what is most important to our vendors is our promotion schedule, because base sales alone are not a good predictor. The promotional plan is what gives the vendor confidence in your forecast. It is more a marketing strategy that just numbers.

Charlie Yanak: What we want to know as a vendor is what are your promotional goals so we don't run out of merchandise.

David Lynn: We clearly want to remain in the driver's seat; we have begun to share data. In terms of risk we want the vendor to share that risk.

Dan Seeley: The problem goes beyond sharing forecasts with vendors. From one vendor I talked to, the EDI information was no good and the retailer did not have any idea on how to forecast and they had to go in and make their own models.

Robert Lane: How is the use of third party distribution changing?

David Lynn: I think the use of third party distribution is definitely going to increase—third party systems in general, expertise, union vs. non-union, economies of scale, there are a host of factors moving that way.

Dennis Green: To the managers of internal DC's, the third party is their competition. They have to be more flexible, more responsive and more accurate. Some vendors are able to deal with EDI and some are not. Those that aren't are going to have to deal through a third party environment.

Ed Mangiafico: We are going to see with more and more vendors that the preparations of the item for sale becomes a cost of goods, and that the vendor takes care of it however he wants. With my vision of no distribution center then the vendor has to deliver the item to your store ready to sell.

Robert Lane: How is EDI evolving in your organizations?

David Lynn: I don't know if anyone has been successful at in-house integration of EDI.

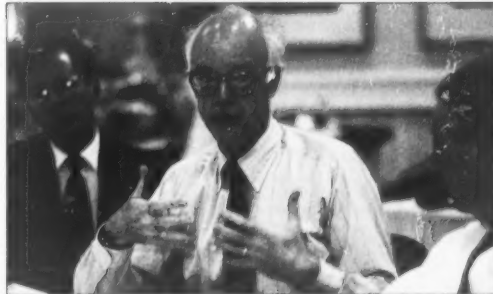
Dennis Green: We use EDI for purchase orders. Sending vendors a purchase order is a done deal. We send a forecast out with every purchase order. Promotional orders are done separately. Everything is done at the total company level rather than at a store by store level.

Neil Weinstein: Silo was doing EDI with only two vendors and that was being done on a PC level. I suspect it will be calendared for 1993. Electronic payment for the purchases is being done.

Ed Mangiafico: All ordering (at May) is being done by EDI and some invoices, but not the ASN (Automated Shipping Notice). Payment was just beginning.

Robert Lane: How about integration of EDI with your vendors?

Dennis Green: Anytime you are very close with a vendor and you are on real time and they are on batch then you have real problems. Another problem is with



Dan Seeley, executive vp, Garr Consulting Group, center, **Charles Yanak,** left, senior marketing manager, Avery Dennison, and **Neil Weinstein,** former vp distribution, Silo Electronics.

picks. A third problem you have is that you need to have a shipment handled as one-week shipments. But, when ASN works, it is very slick.

Ed Mangiafico: The accounts payable department in terms of matching and reconciling is going to be gone within this decade.

Dennis Green: Today we create a label and put it on the carton. We would like to use the label from the vendor, but there are several problems. The labels don't have store-friendly information, the labels rub and lose scanning capability. Clean labels are not consistently placed for efficient scanning.

Dennis Green: Another thing we are trying to do is get the carriers to bring it right to the store and not take it to their areas.

Robert Lane: How is Quick Response changing inventory management?

Ed Mangiafico: With the vendors that can respond, Quick Response helps you with your turnover and in-stock service level with lower inventory. We did Quick Response with Hanes long before they had EDI. The motivation is to stay in-stock for the customer. Quick Response does not yield the response from just any vendor you want it to.

What we want to know as a vendor is what are your promotional goals so we don't run out of merchandise.



Robert Lane, executive vp, Garr Consulting Group.

Neil Weinstein: Part of the Quick Response is how quick. GE guaranteed that they would never be out of stock for some items in their mixing stations and then have overnight response from the mixing stations.

Dennis Green: I personally think that Quick Response is a terrible word. What you are talking about is faster, until you get to the point of just-in-time. Anytime we make the time between the time a product is sold and when it is shipped is a quicker response.

Ed Mangiafico: There is some good empirical evidence that the vendor gains a competitive sales advantage from dealing with just-in-time response.

Neil Weinstein: What is in it for the vendor? The vendor has to see something in it for them. At GE they would get electronic payment and for them it is the time value of money.

Dennis Green: To come back to your question, how does the manufacturer benefit from Quick Response? They benefit from the gain in sales over their competitor and the financial success of the retailers.

Charlie Armstrong: Ultimately there is going to be a shortage of domestic production if everyone goes to Quick Response. The sewers say that they could do Quick Response if they could get the fab-

ric.

Dan Seeley: If you want anything that is fancy then you are talking about off-shore.

Dennis Green: You know the people overseas are making some real inroads on Quick Response.

Murray Forseter: You are seeing ads from Federal Express saying, "If you want Quick Response from Hong

Kong, hey you can have it overnight."

David Lynn: Quick Response is really just-in-time, quick predictable response.

Ed Mangiafico: Just-in-time assumes that you have everything in place. Through the 90s you are going to see a trend to quicker response. You need better data integrity, better forecasting, and the ability to process in entirely different time frames than we have been talking about, and manage the whole flow process.

Dennis Green: The more time you take it out the better. It means a shift from the cost focus to a time focus. At Mervyn's, if we can eliminate three weeks of inventory, we can cover my entire payroll budget.

David Lynn: You are going to have to have standards in terms of how long the merchandise is going to be in the store.

Robert Lane: To wrap up, what would an organization look like in the 1990s to bring distribution and logistics to the point we have been talking about?

Neil Weinstein: For national specialty retailers, you need to have someone who reports to the ceo or president for the things we are talking about today to be taken seriously.

Ed Mangiafico: It is part of the function of the ceo; it is part of

many functions in the company. It would be a function for the job coordinator for the people who are part of the process.

Ed Mangiafico: Logistics can mean a lot to distribution, you need staff support for that, but you need it to be "owned" by those who are responsible.

Dennis Green: The merchandising function is to get the merchandise selection, and the store part is to sell, and the piece in between is still evolving.

Neil Weinstein: You might have the logistics report to the ceo/coo as a staff support position rather than a line management.

David Lynn: I think it has to be reported at the highest level. It needs to be a womb to tomb concept.

Dennis Green: At Mervyn's, we have a logistics task force representing the key functional heads. This group has been responsible for the enormous gain in EDI. Also, they have implemented the Quick Response strategy which reduced total cycle time. Most importantly, they have brought total organization focus on the execution of logistics as a business strategy.

Ed Mangiafico: I think you will see gradual changes. In the past, carton labeling has moved some. We finally figured out we did not have to standardize hangers to get the manufacturer involved in the process. I don't think these changes will occur in a short process. We have a snapshot of a short span of the long river.

Dennis Green: We have to move from a retail accounting method to a cost basis. For that, you need to have good cost data. It is how the grocery stores and consumer products manufacturers work, and it's how the rest of retailing should be.

CHANGES IN DISTRIBUTION

Widespread changes are afoot. Dan Seeley, Garr's executive vp for merchandise logistics, suggests that the factors now driving change in retail include "massive competition, declining sq. ft. for merchandise to compete for the customer's dollar, and consumers who won't put up with unfocused assortments or out-of-stock positions."

"They don't have the time. They want certainty that retailers will have products they want when they want to buy them. That's why logistics is the business of satisfying customers," says Seeley.

Sources of Change From the Retailers Point of View: When executives are asked about the changes that "have really affected the way you manage and control inventory" three dominant themes are expressed.

The first theme concerns changes in the technology available to manage inventory. Department stores are most likely to see technological change as a major force changing logistics and distribution.

The next two themes most frequently mentioned are the drive to reduce inventory and the push to provide quicker response.

In effect, these two trends are sides of the same coin because Quick Response is the means to reduce inventory. Supermarkets and drug stores are most likely to mention reductions of inventory. Home centers are most likely to mention quicker response.

Changes Ahead: Most retailers who are currently using the following distribution methods tell us they plan to increase their use:

- Just-In-Time/Quick Response (72% plan to increase use)
- Measure store space productivity by sku or product line (55% increase)
- On-line planning system (60% increase)
- Identification of like trends across departments (59% increase)
- Information at the sku or product line level (50% increase)

What Nine out of 10 Retailers Plan to Do: Based on what they tell us now, 10 of the 13 distribution/logistics methods surveyed in our

**"What Changes Have Really Affected The Way You Manage and Control Your Inventory in Your Company?"
(spontaneous mentions)**

	Type of Retailer						
	Total	Dept. Store	Mass Merch.	Spec. Apparel	Home Center	Supermarket/Drug	Other
Technology	34%	48%	22%	27%	19%	25%	58%
Reducing inventory	24%	17%	17%	27%	25%	38%	16%
Quicker response	16%	28%	8%	23%	31%	4%	11%
Economy/recession	16%	13%	17%	27%	25%	13%	5%
Financial considerations	6%	13%	11%	—	6%	—	5%
Other	27%	9%	33%	41%	25%	21%	37%

Among Those Who Use Each Method . . .

	Percent Planning to . . .		
	Increase	Decrease	Stay The Same
Just in time/quick response	72%	1%	27%
On-line planning system	60%	1%	39%
Identification of like trends across depts.	59%	1%	40%
Measure store space productivity by sku or product line	55%	2%	43%
Information at the sku or product line level	50%	2%	48%
Store input on merchandise selection	47%	4%	49%
DC to stores	41%	8%	51%
Vendor certification	37%	2%	61%
Reduced network	36%	9%	55%
Information at the size or color level	36%	6%	58%
Basic locker stock in DC always on hand	28%	15%	57%
Vendor direct to stores	21%	23%	56%
In-transit inventory	16%	6%	78%

1992 study will either be retained at their current level of use or increased by nine out of 10 retailers. Only one practice, vendor direct-to-store, is showing substantial declines.